

6287704

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#26



Fig. 1

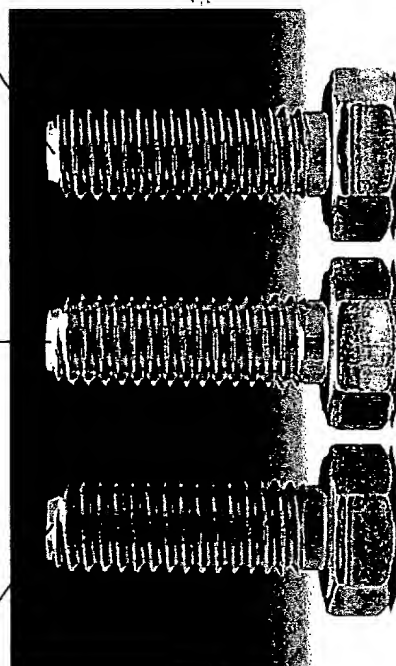
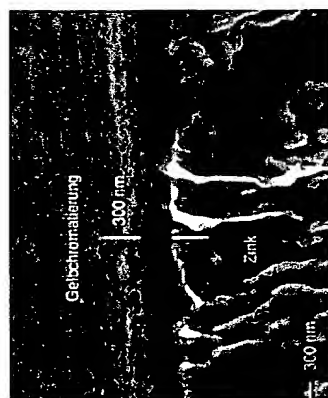
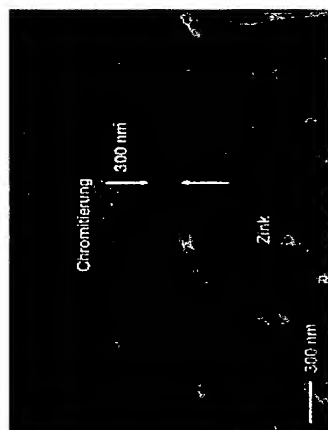


Fig. 2

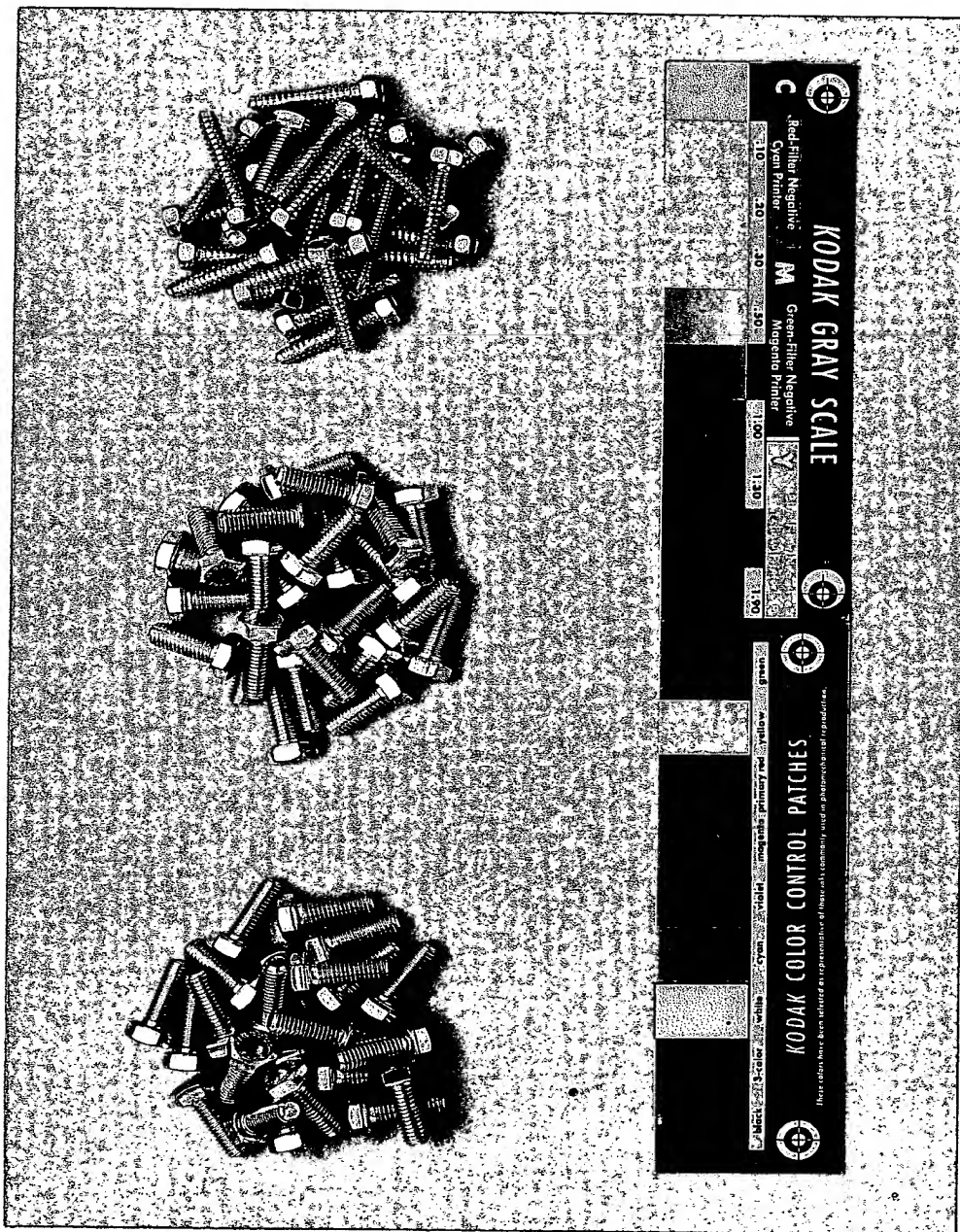


Fig. 3

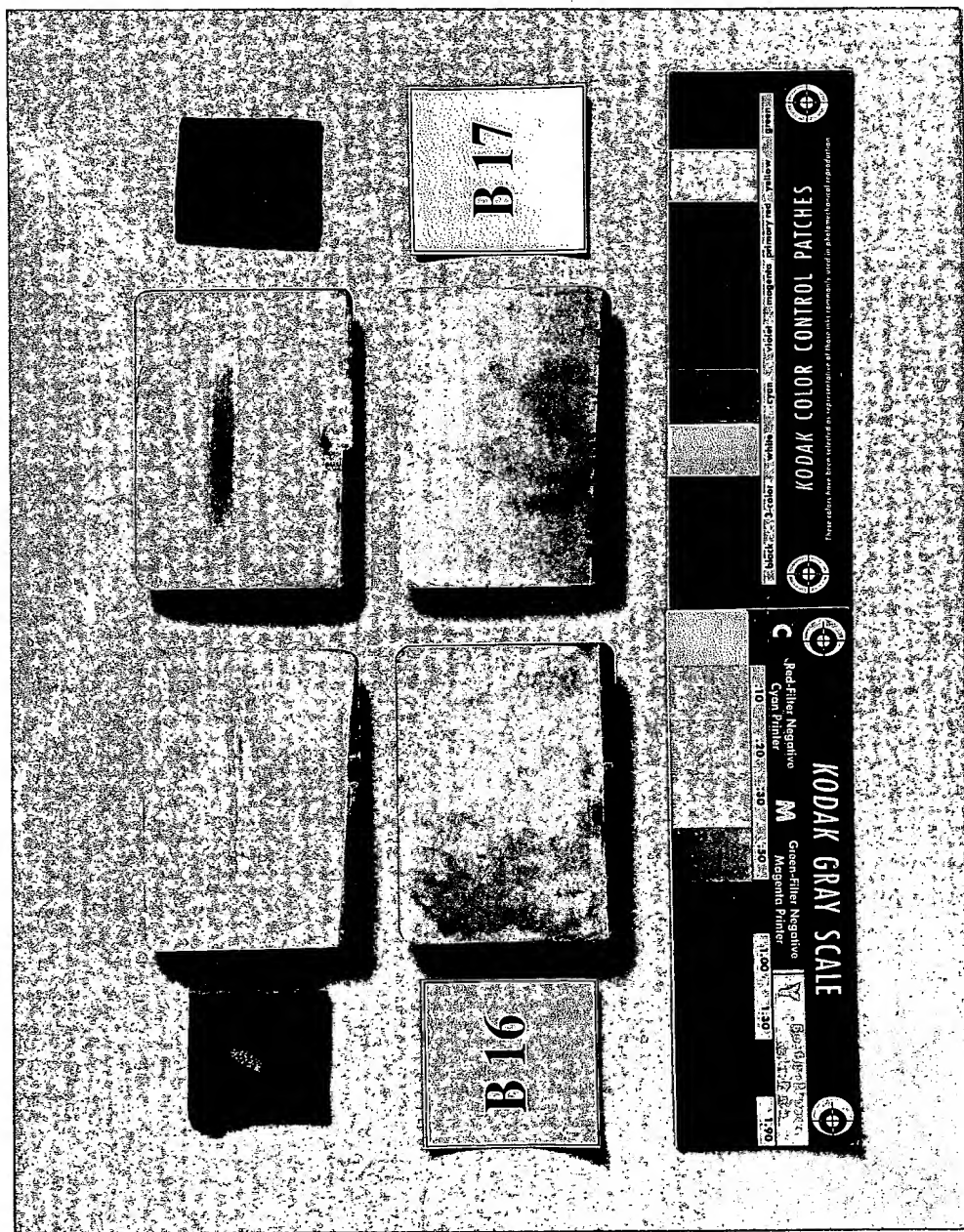
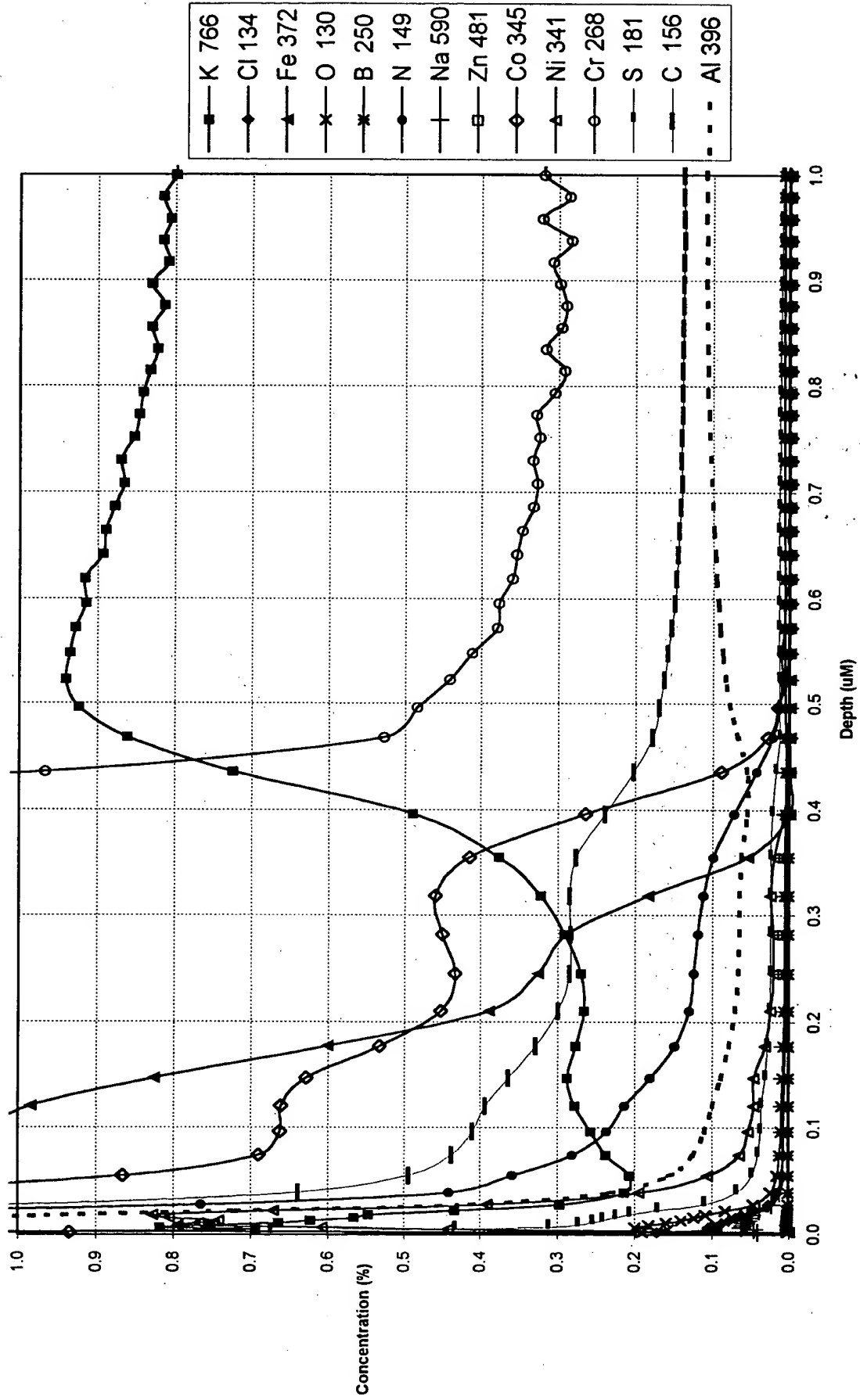


Fig. 4

Fig. 5

Pattern 1, Measurement Position A



Pattern 1, Measurement Position A

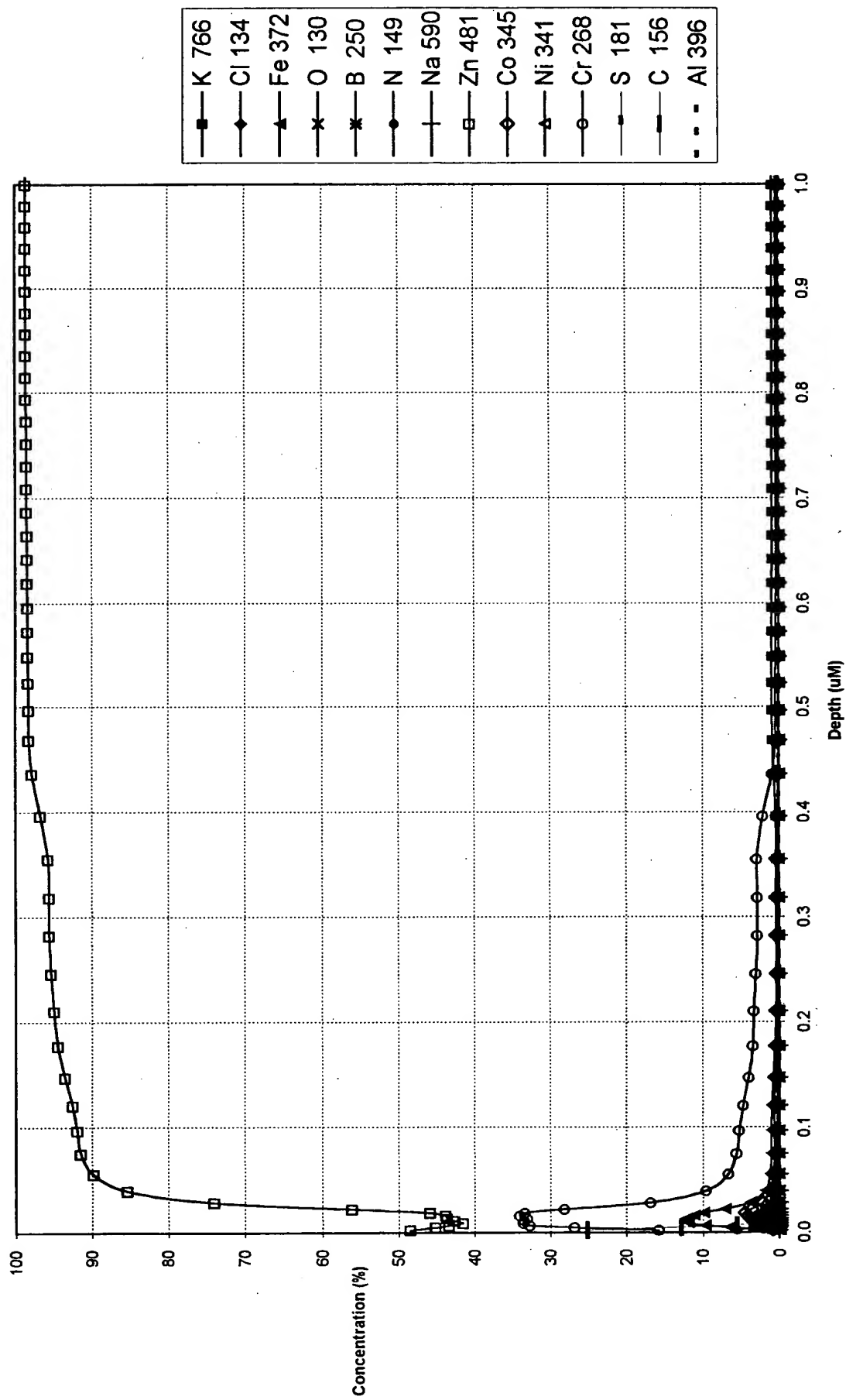


Fig. 7

Sample 1, Measurement Position B

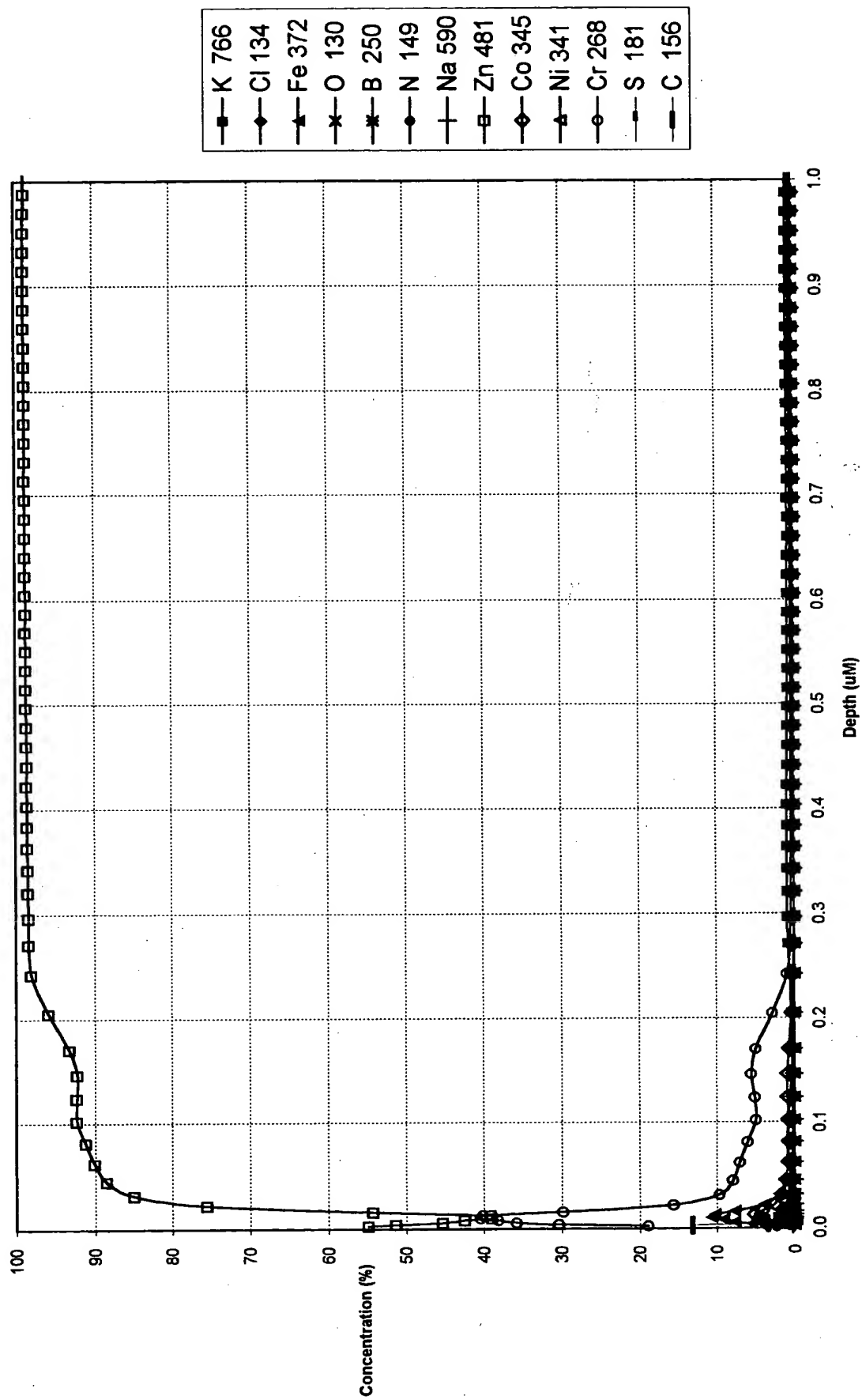
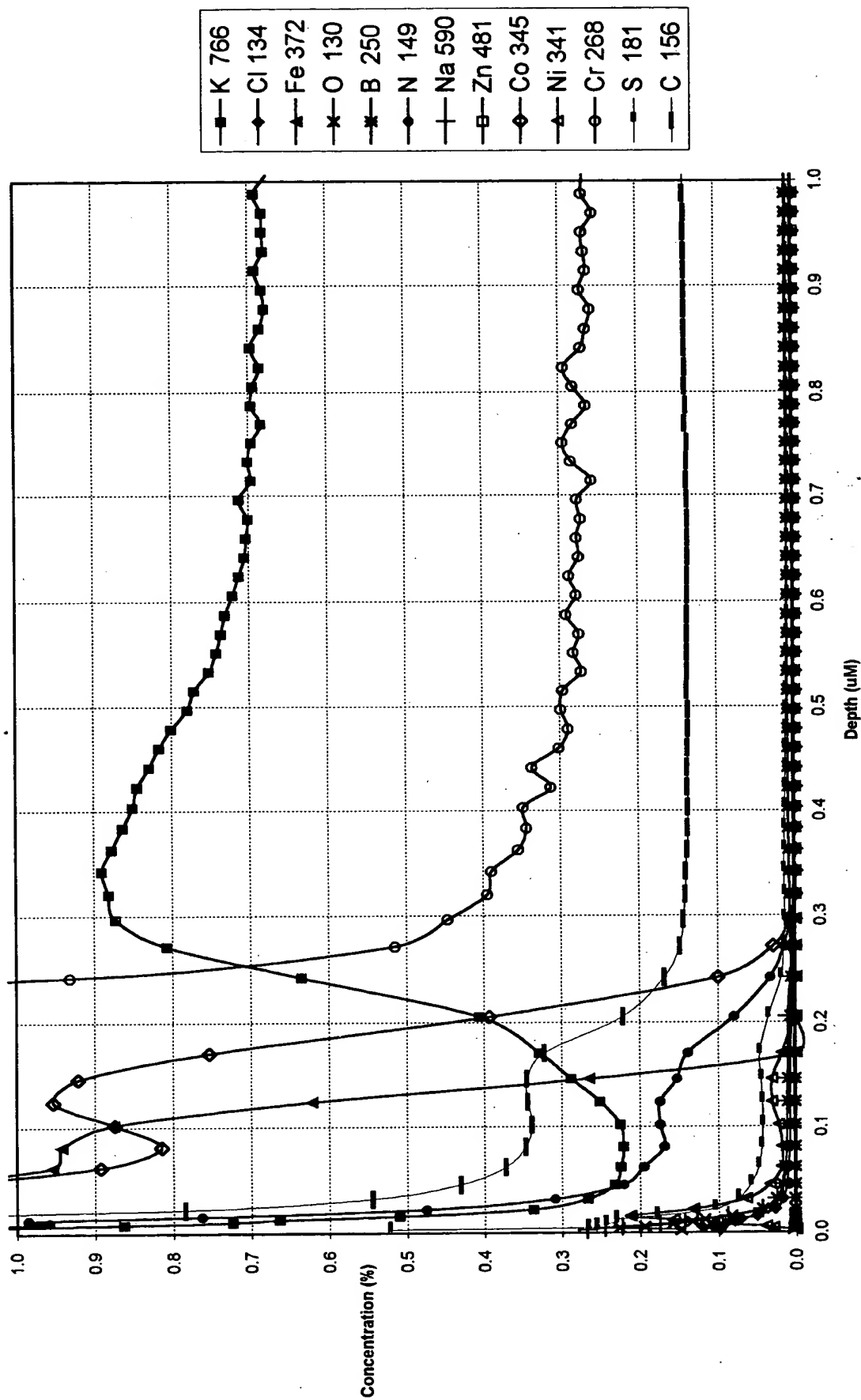


Fig. 8

Sample 1, Measurement Position B



Sample 2, Measurement Position A

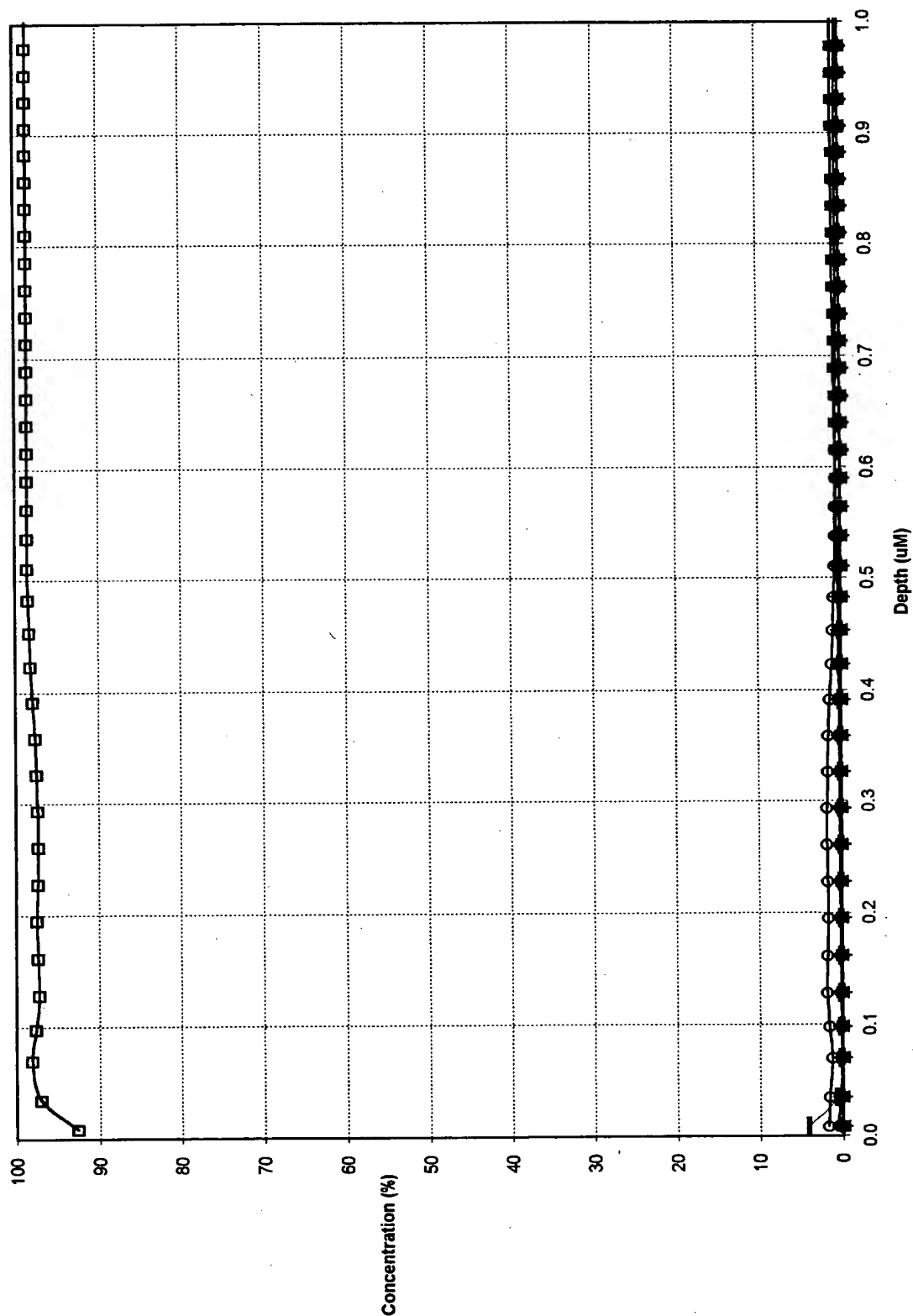
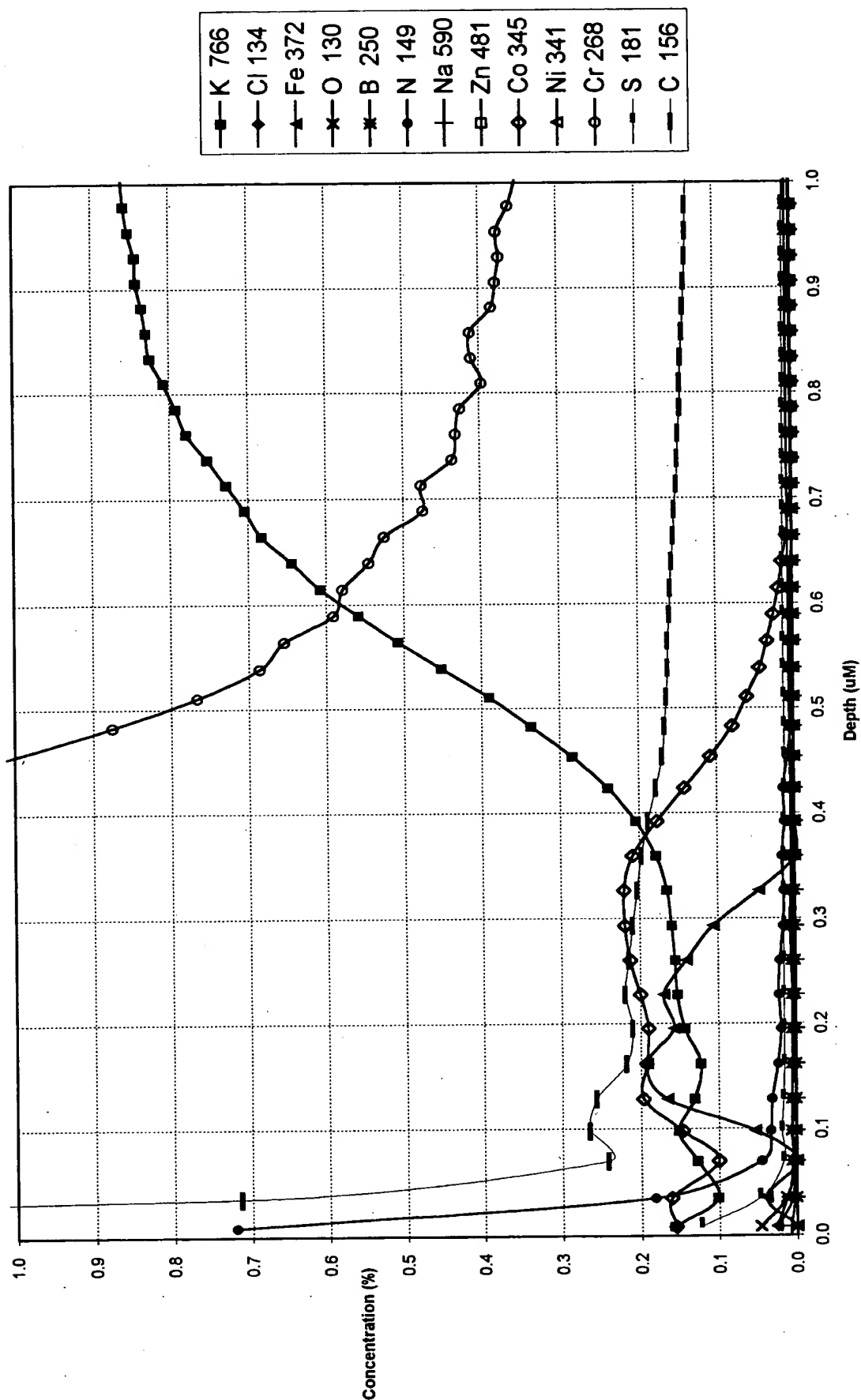


Fig. 9

Sample 2, Measurement Position A

Fig. 10



Sample 2, Measurement Position B

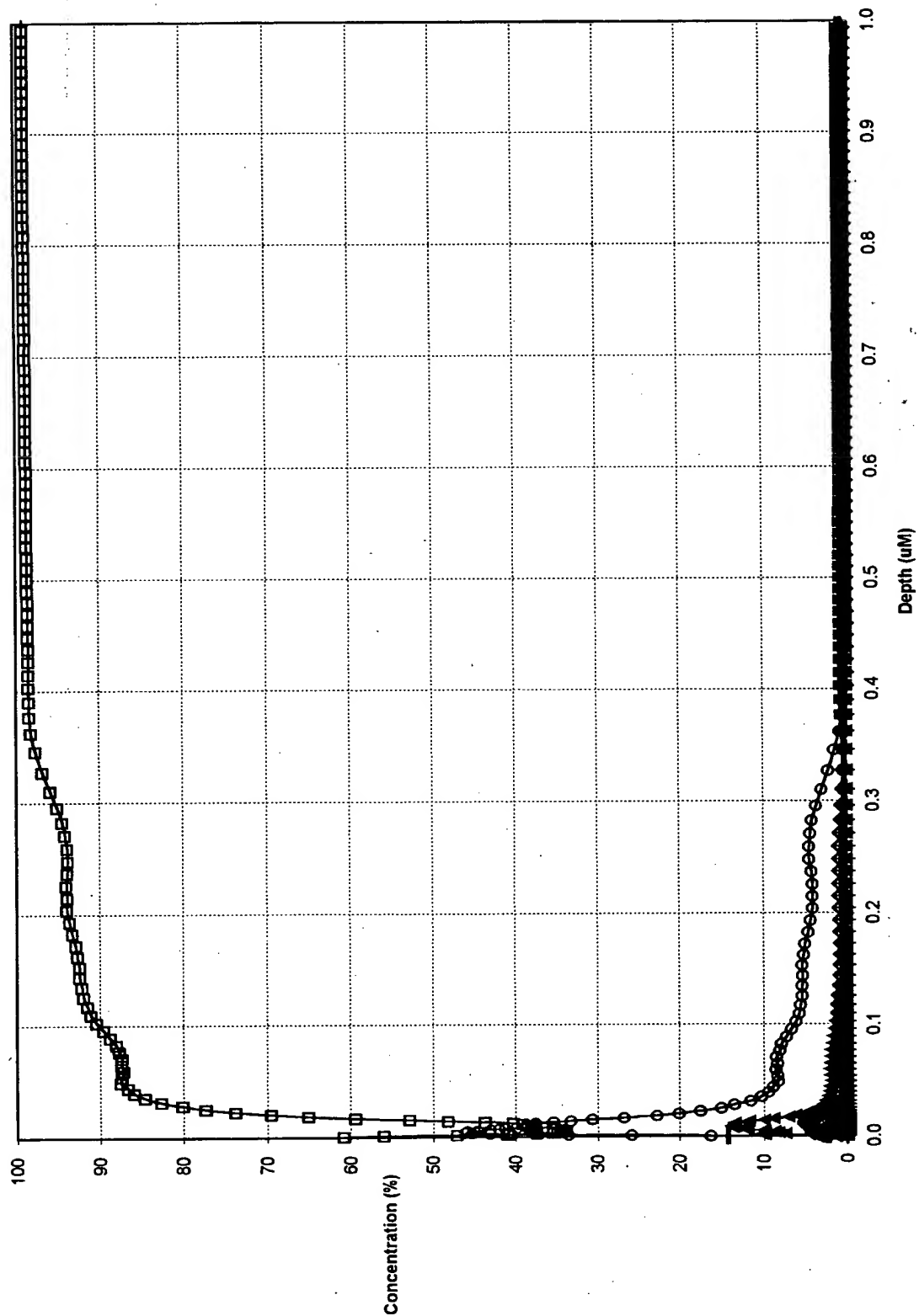


Fig. 11

Fig. 12

Sample 2, Measurement Position B

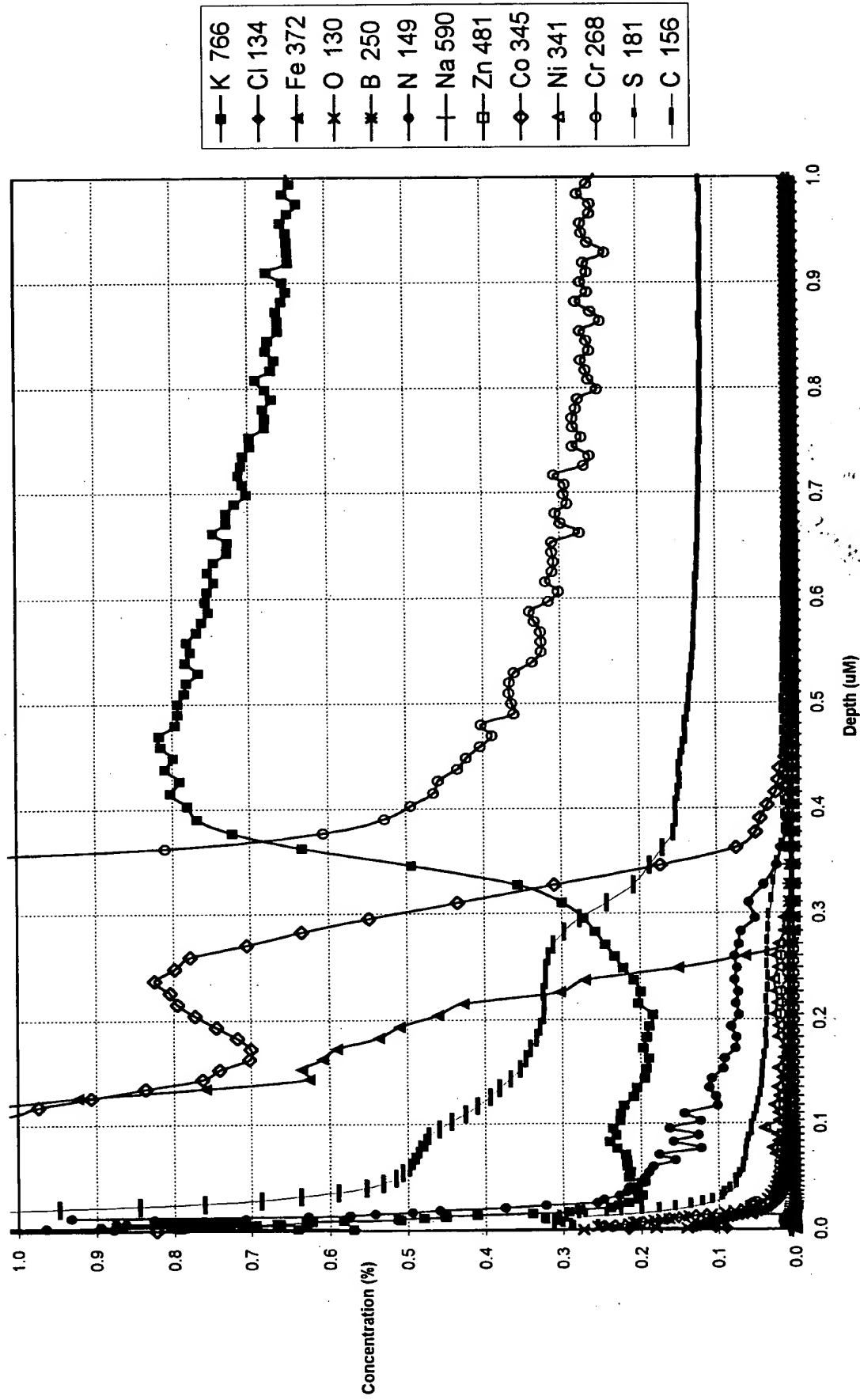


Fig. 13

Sample 3, Measurement Position A

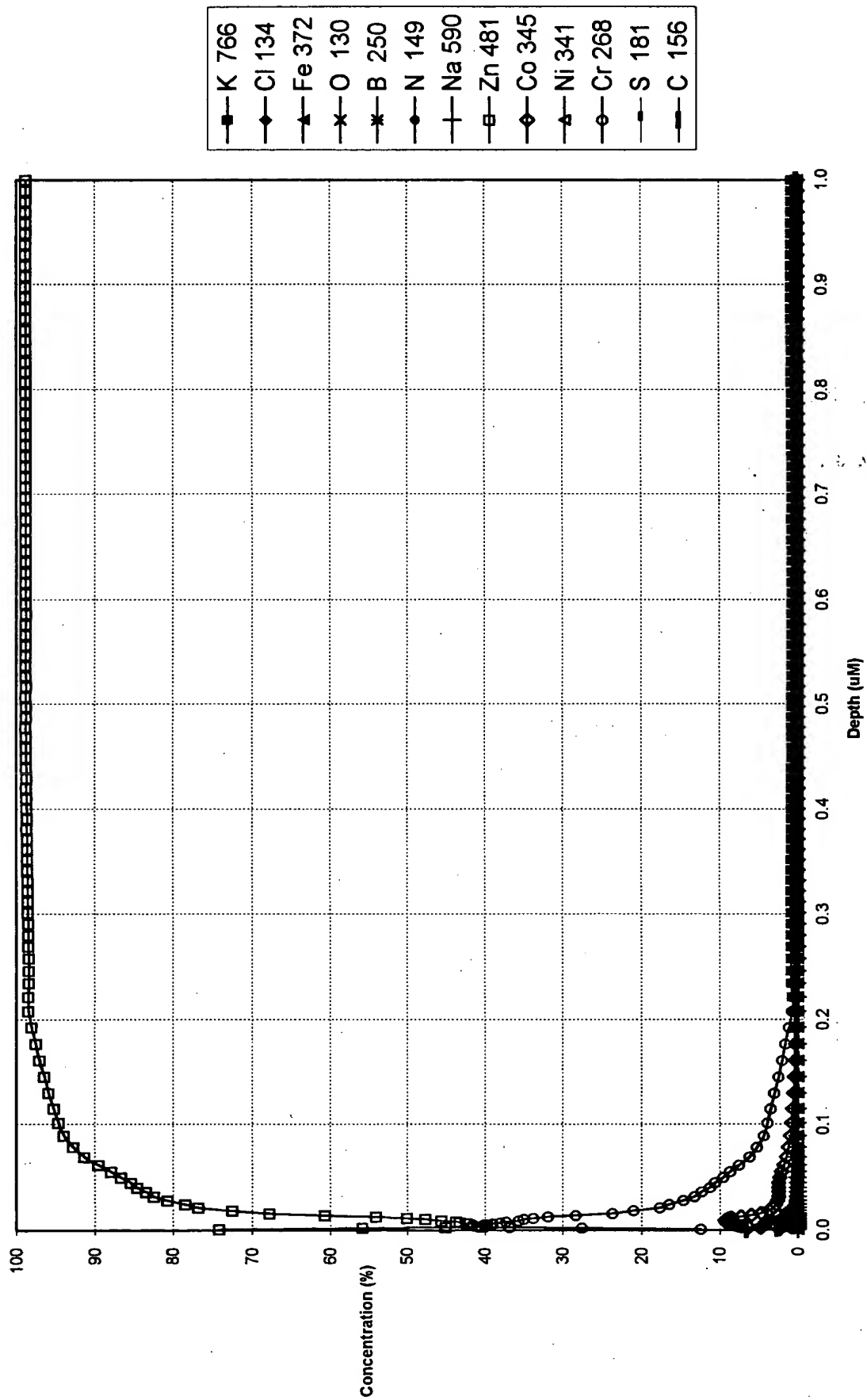


Fig. 14

Sample 3, Measurement Position A

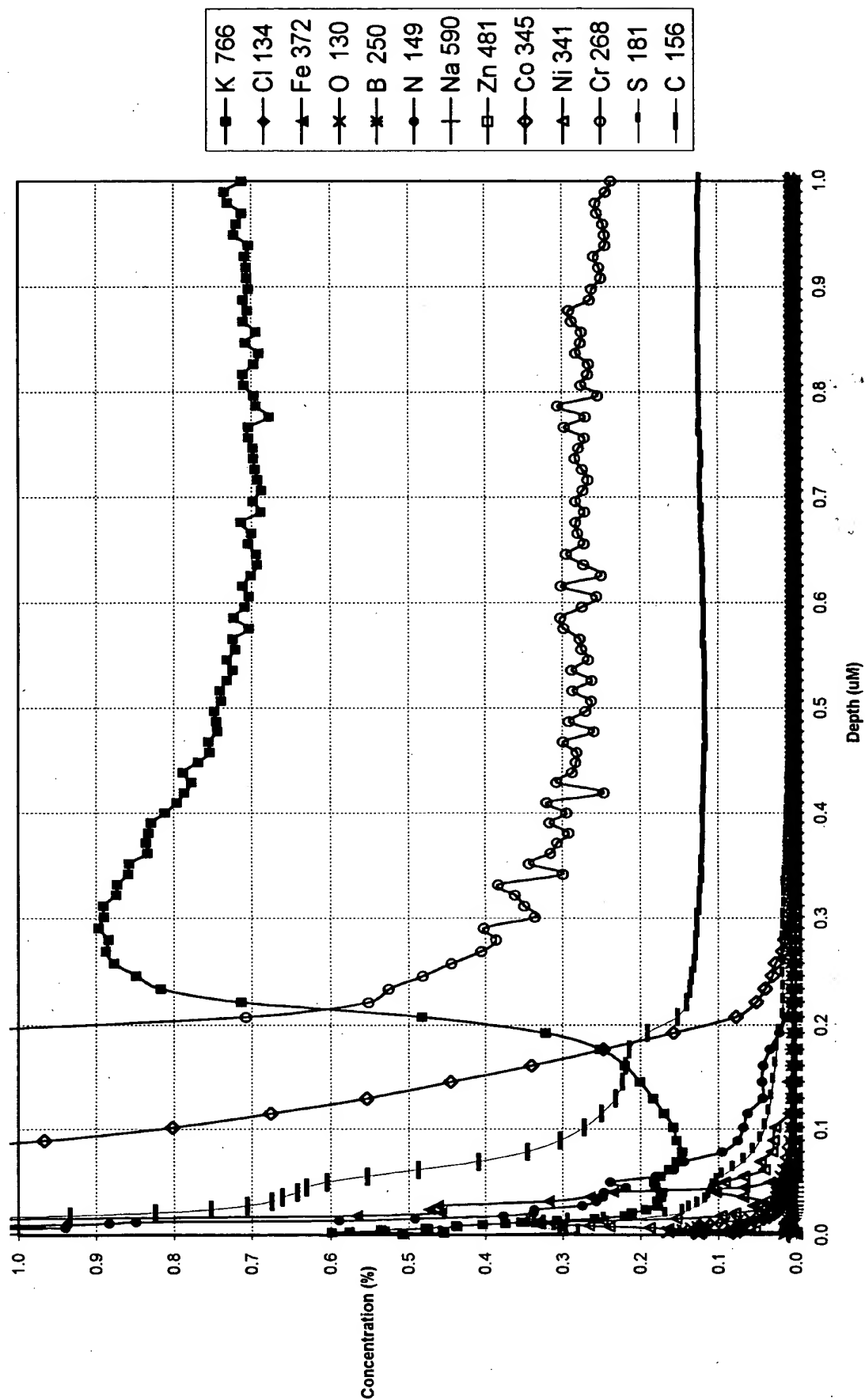


Fig. 15

Sample 4, Measurement Position A

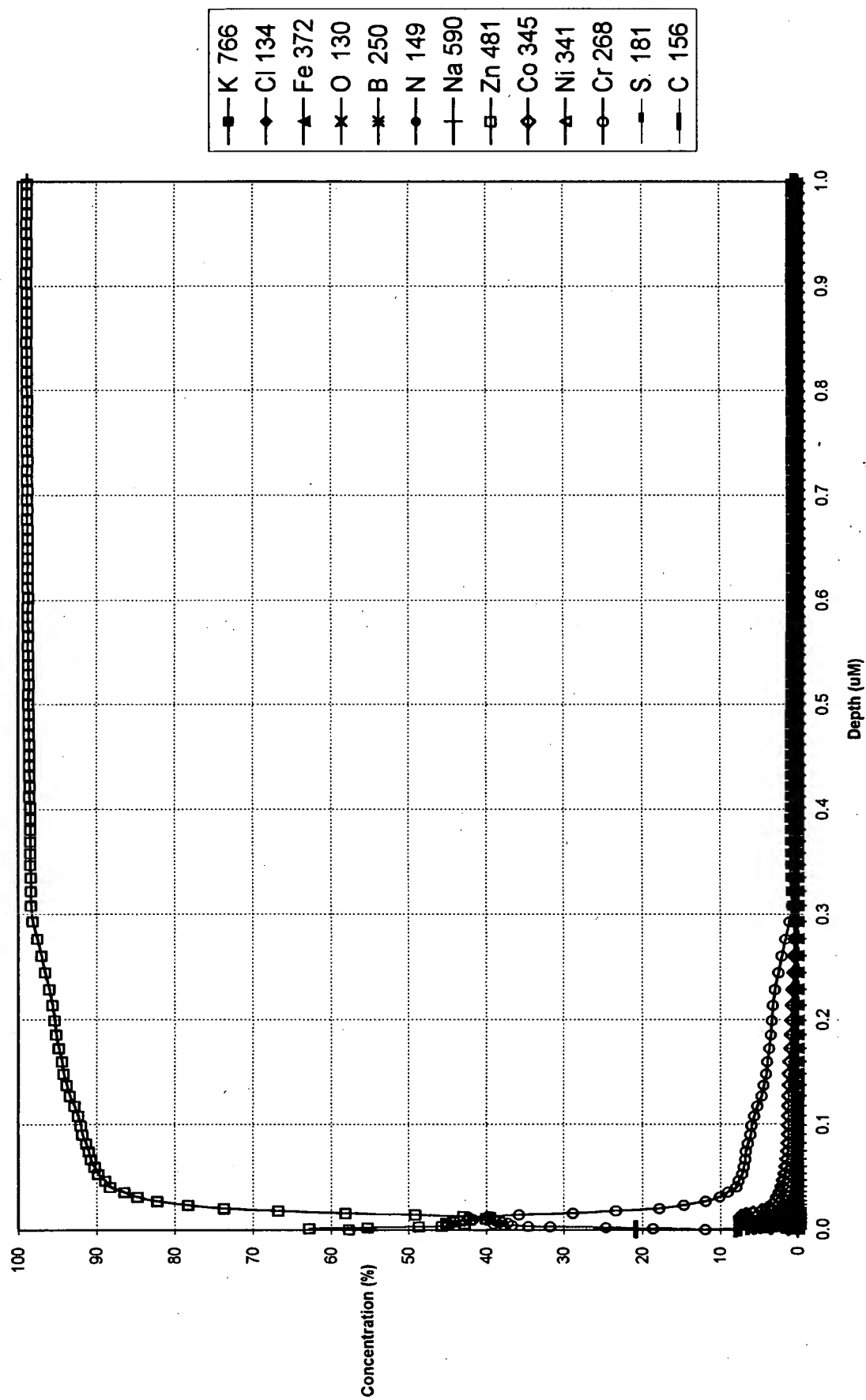


Fig. 16

Sample 4, Measurement Position A

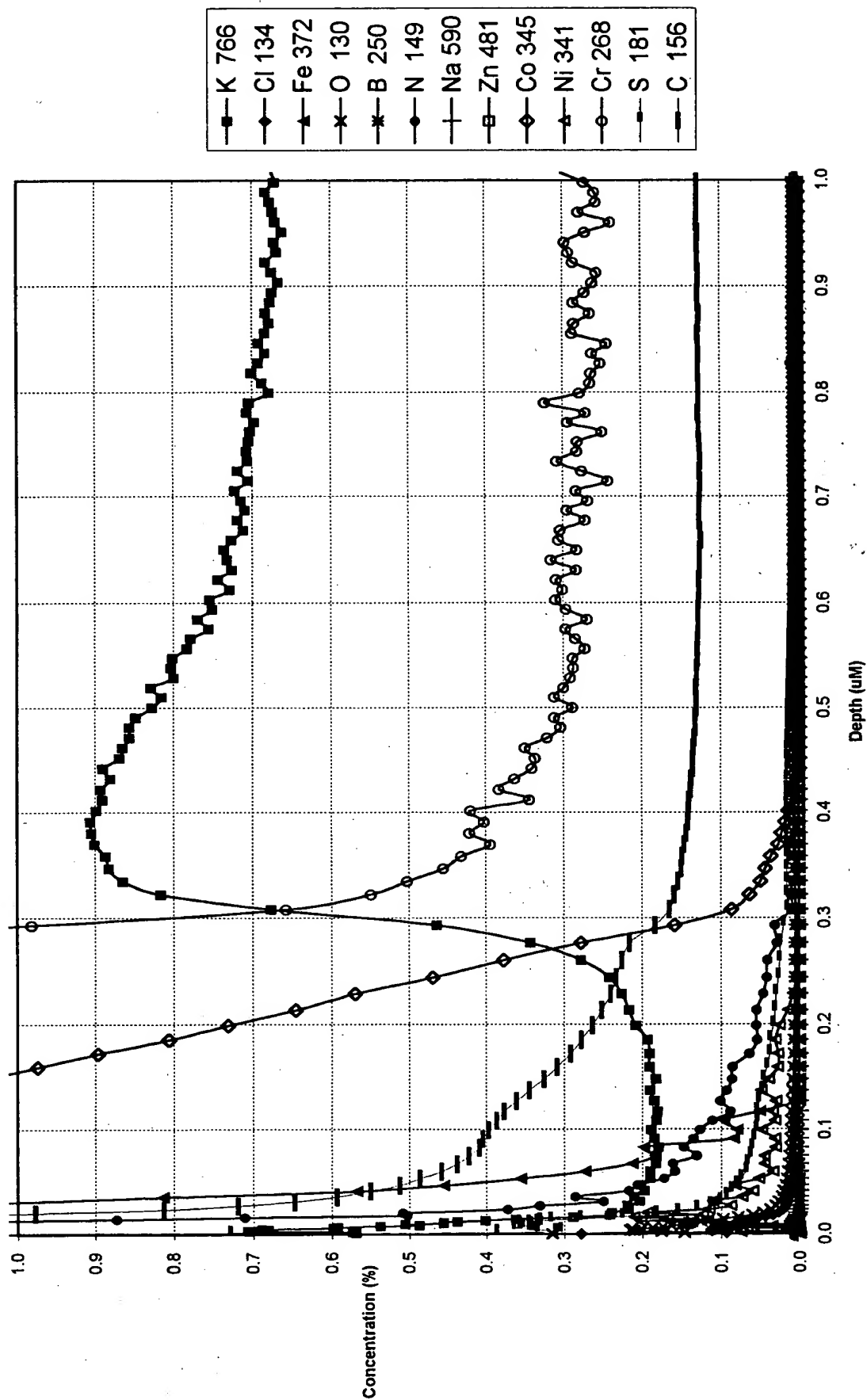
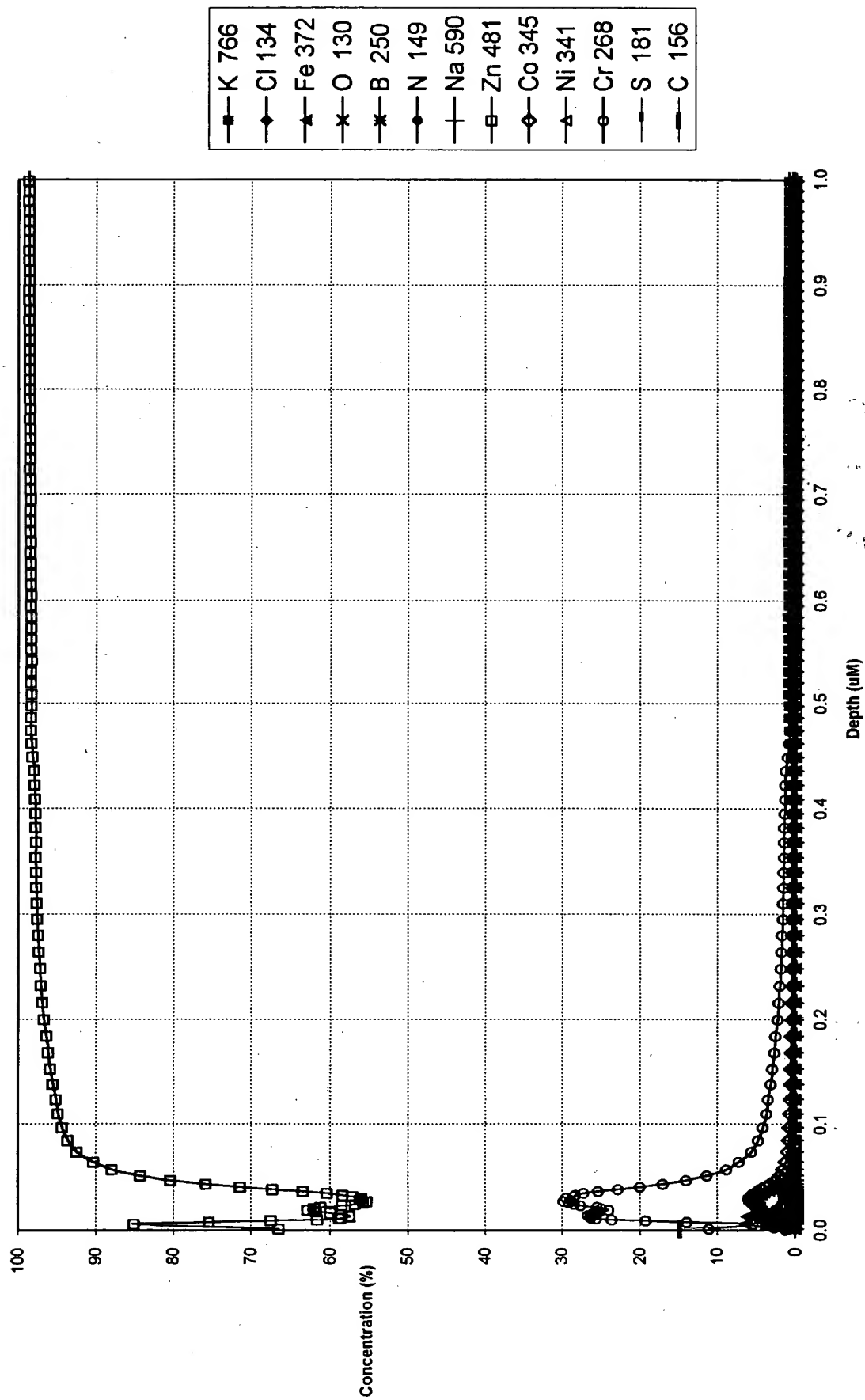


Fig. 17

Sample 5, Measurement Position A



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Fig. 18

Sample 5, Measurement Position A

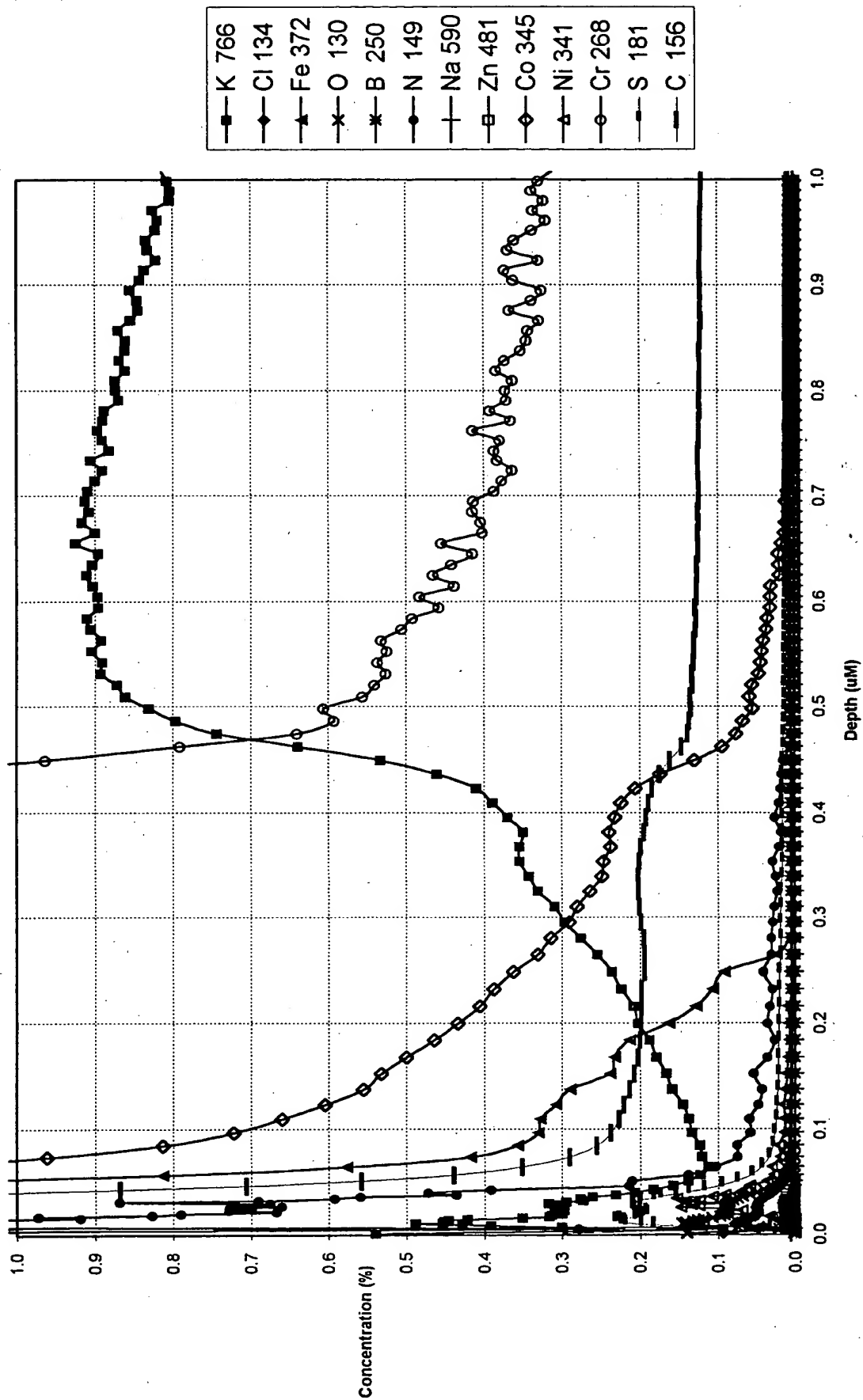


Fig. 20

Sample 6, Measurement Position A

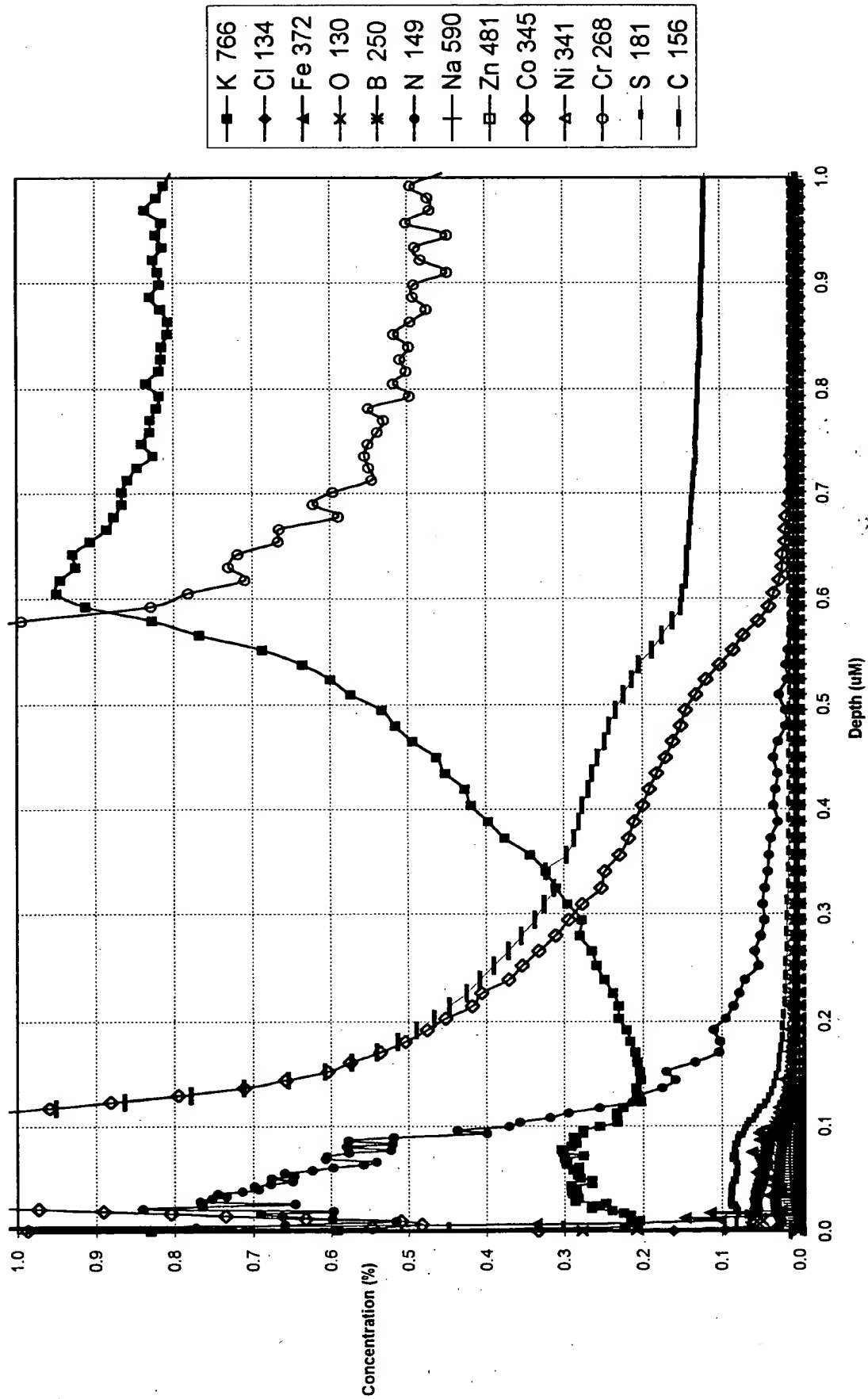


Fig. 19

Sample 6, Measurement Position A

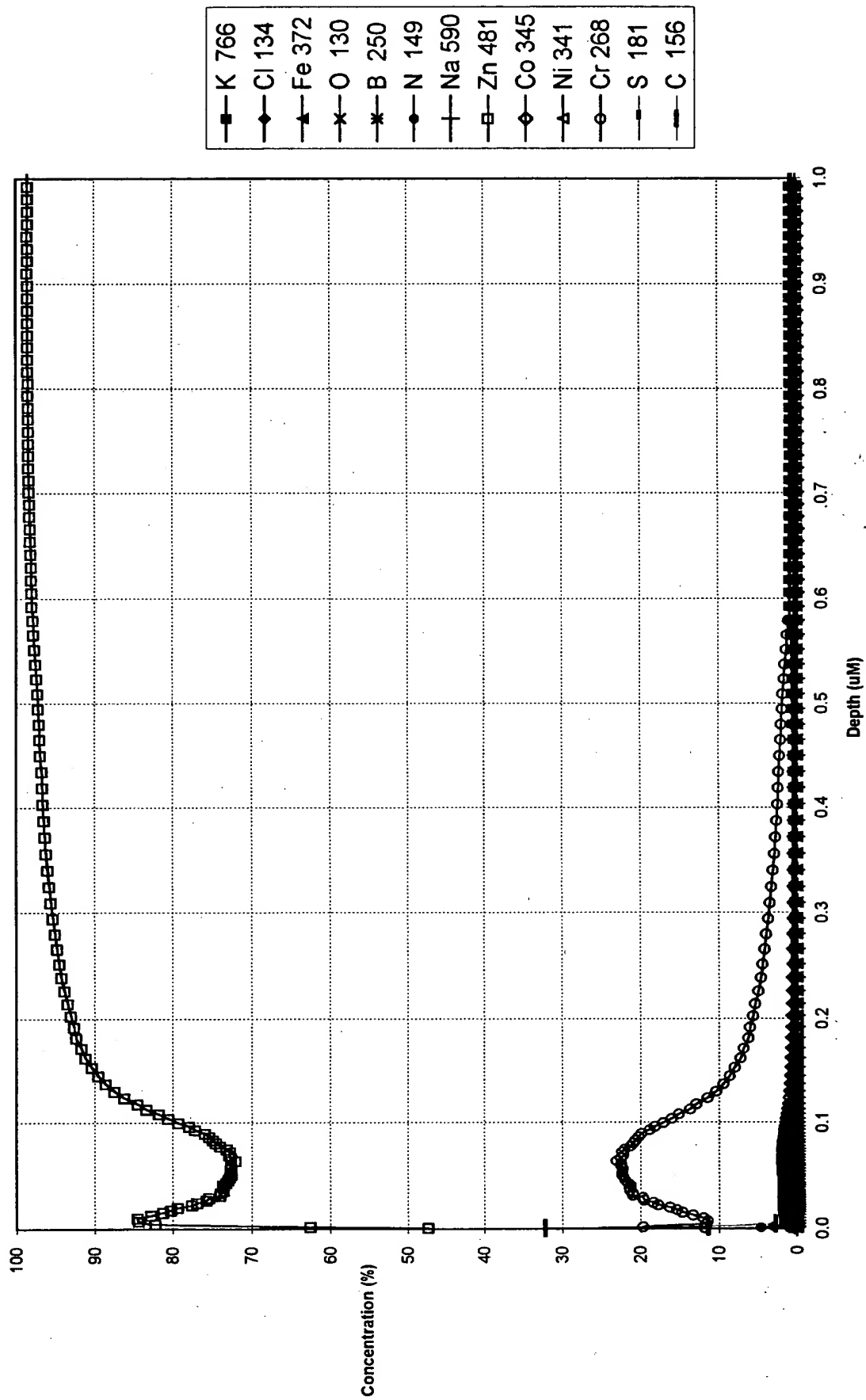


Fig. 21

Sample 6, Measurement Position B

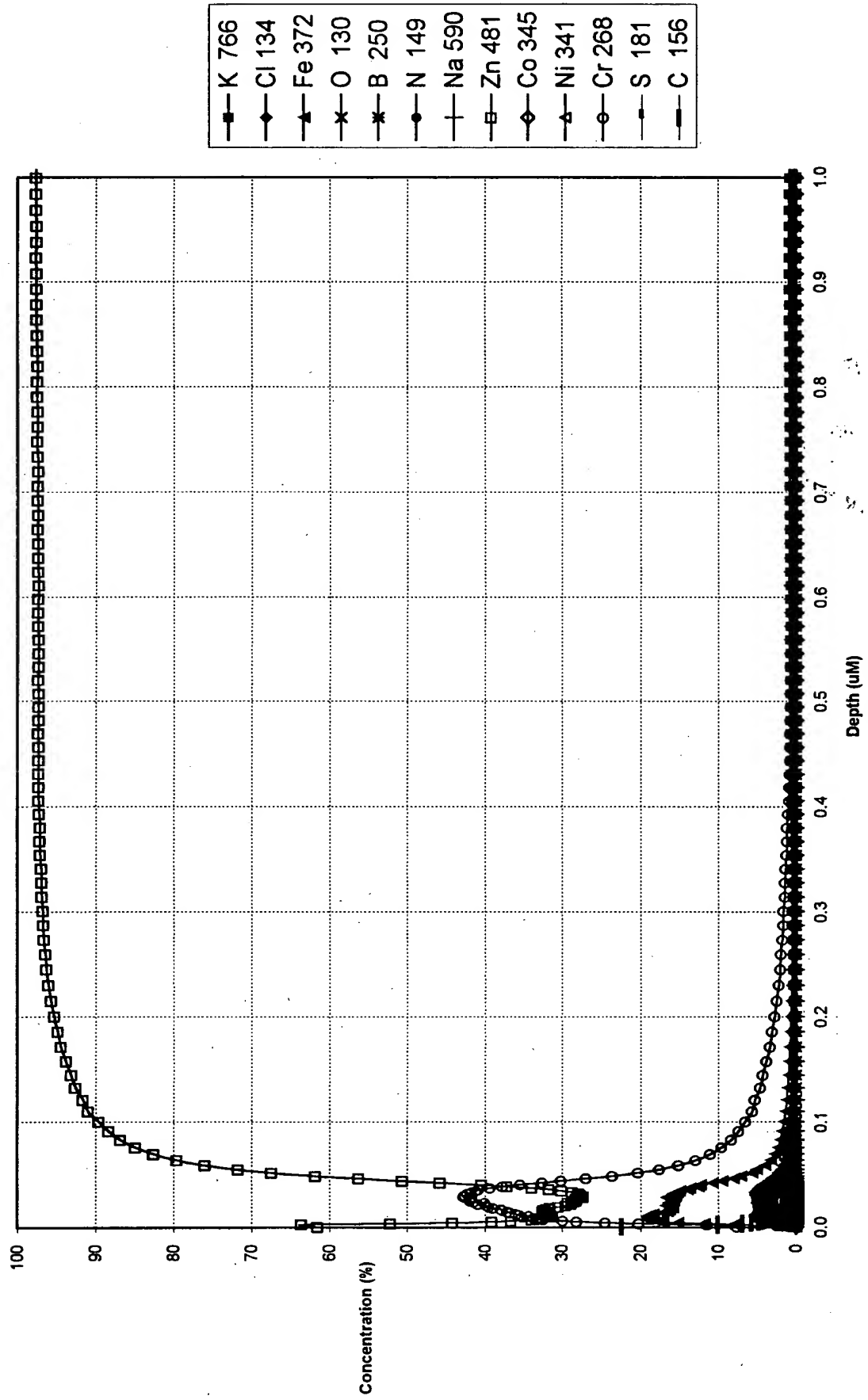


Fig. 22

Sample 6, Measurement Position B

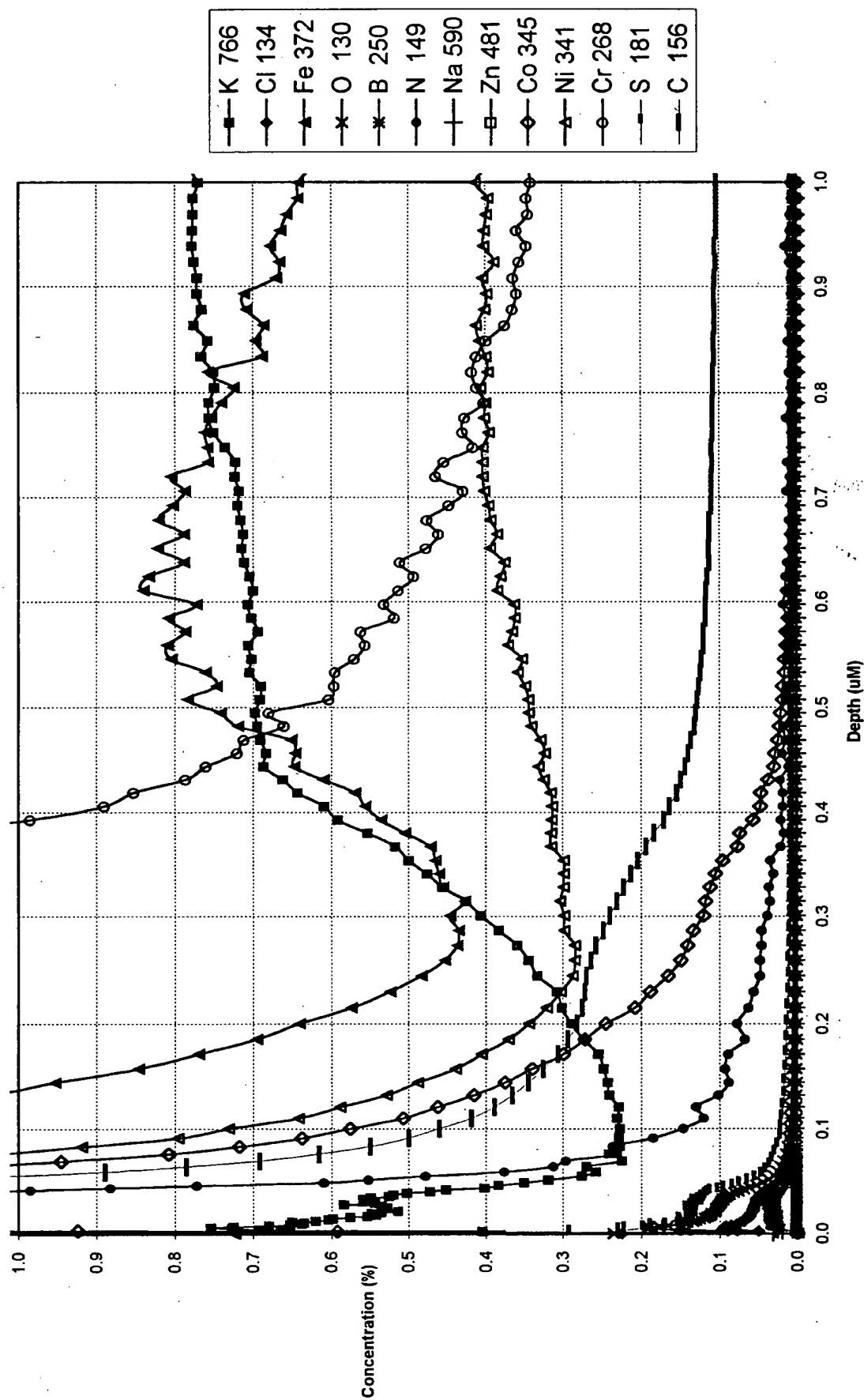


Fig. 23

Sample 6, Measurement Position C

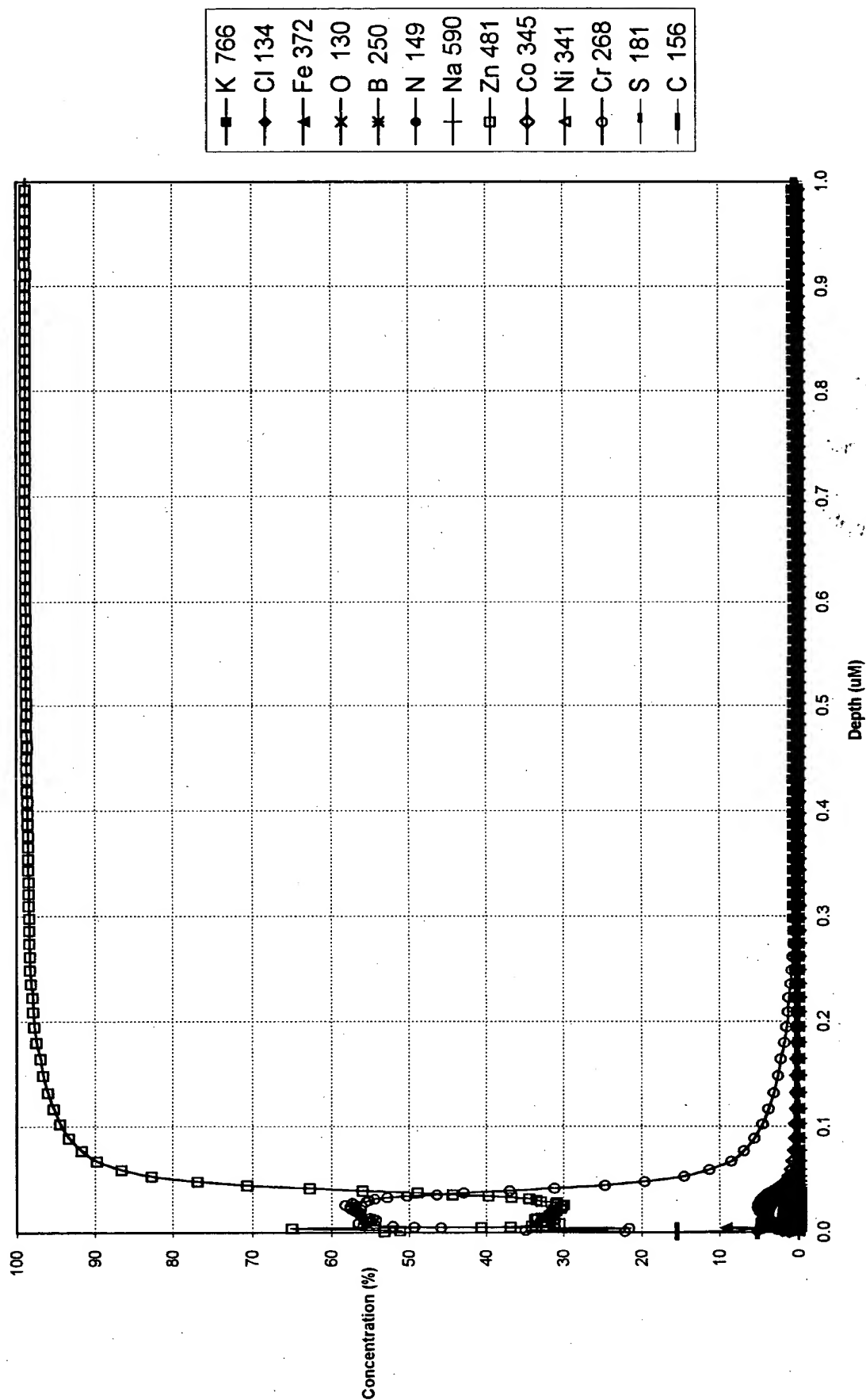
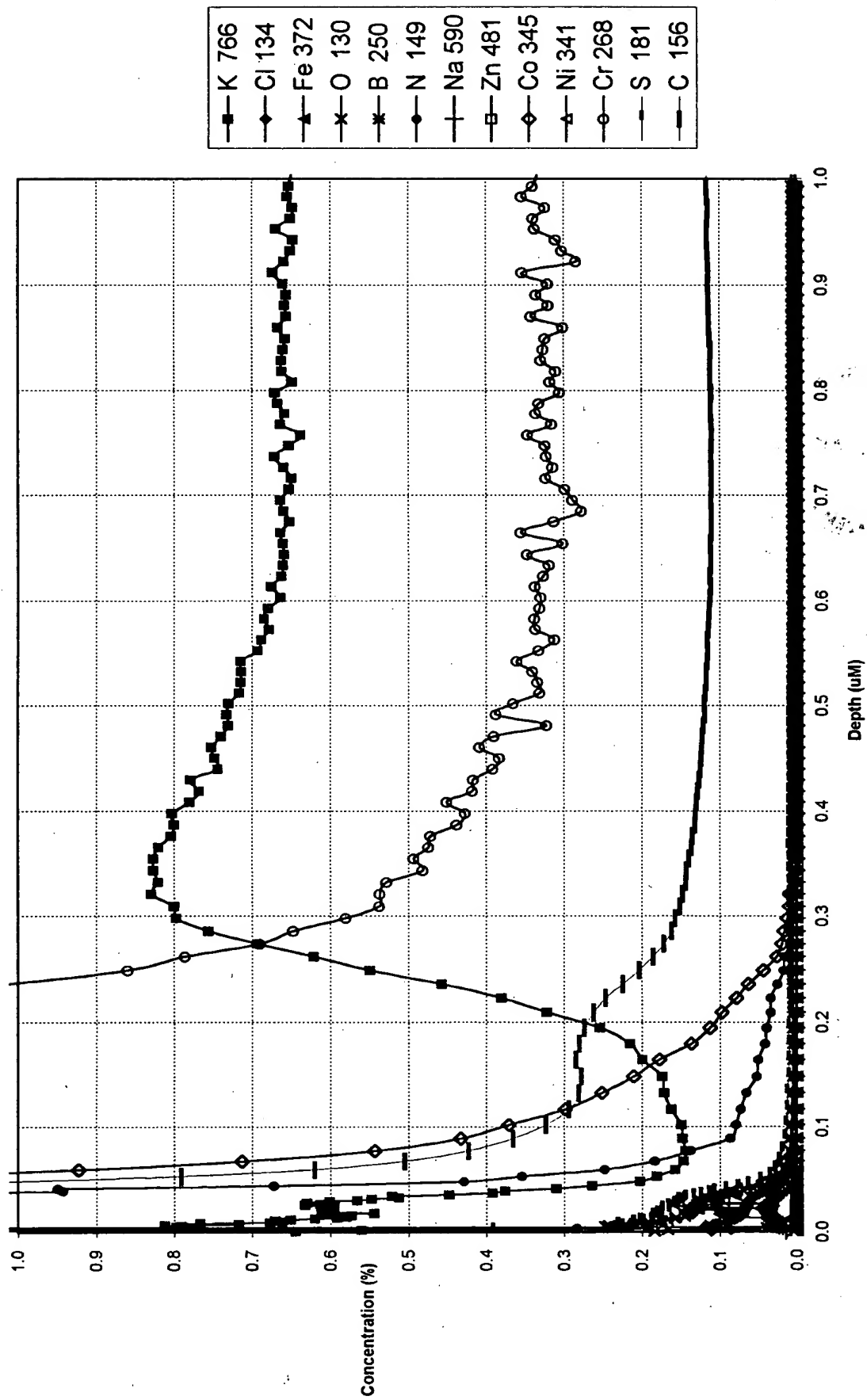


Fig. 24

Sample 6, Measurement Position C



HE

Fig. 25

Sample 6, Measurement Position D

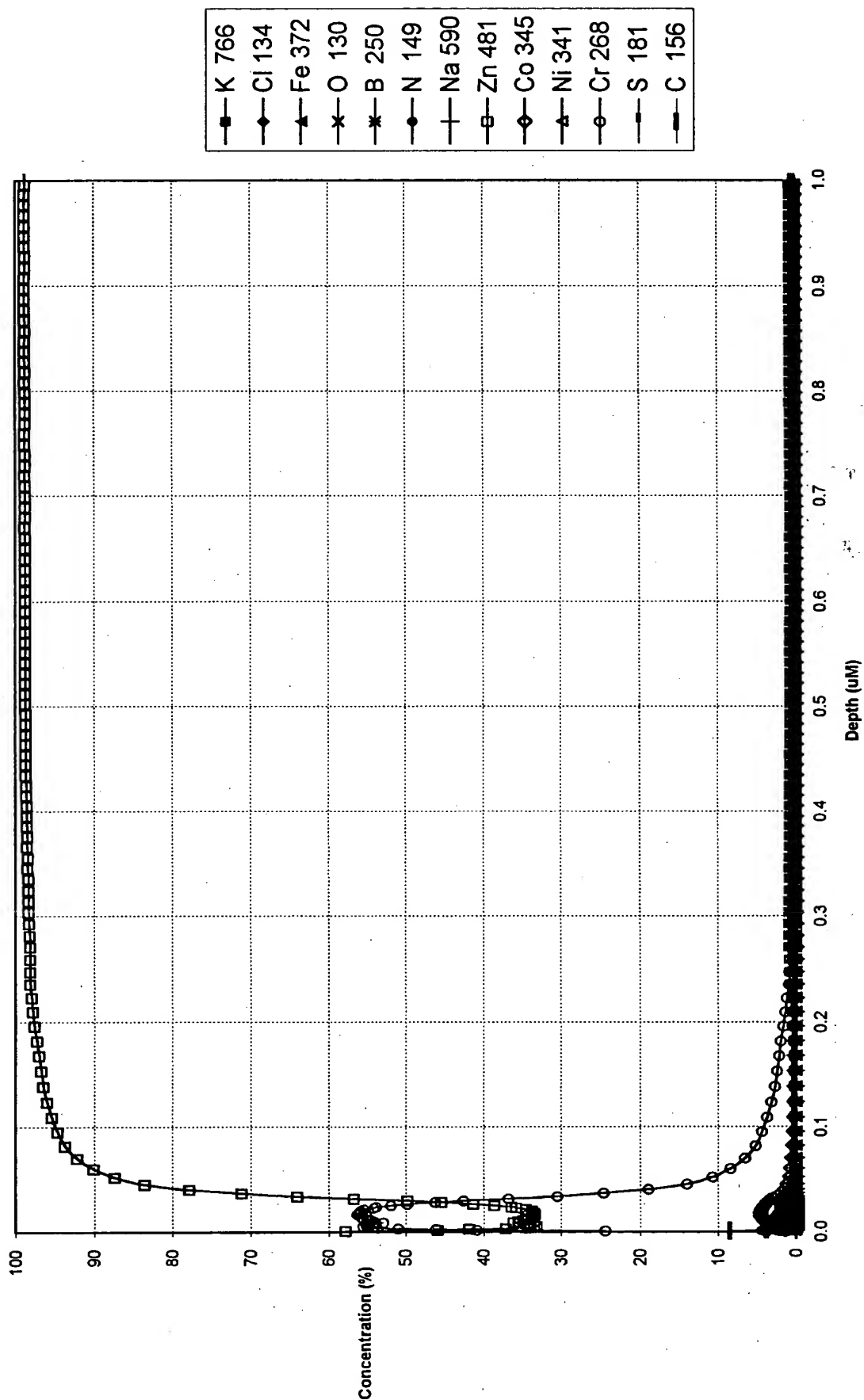


Fig. 26

Sample 6, Measurement Position D

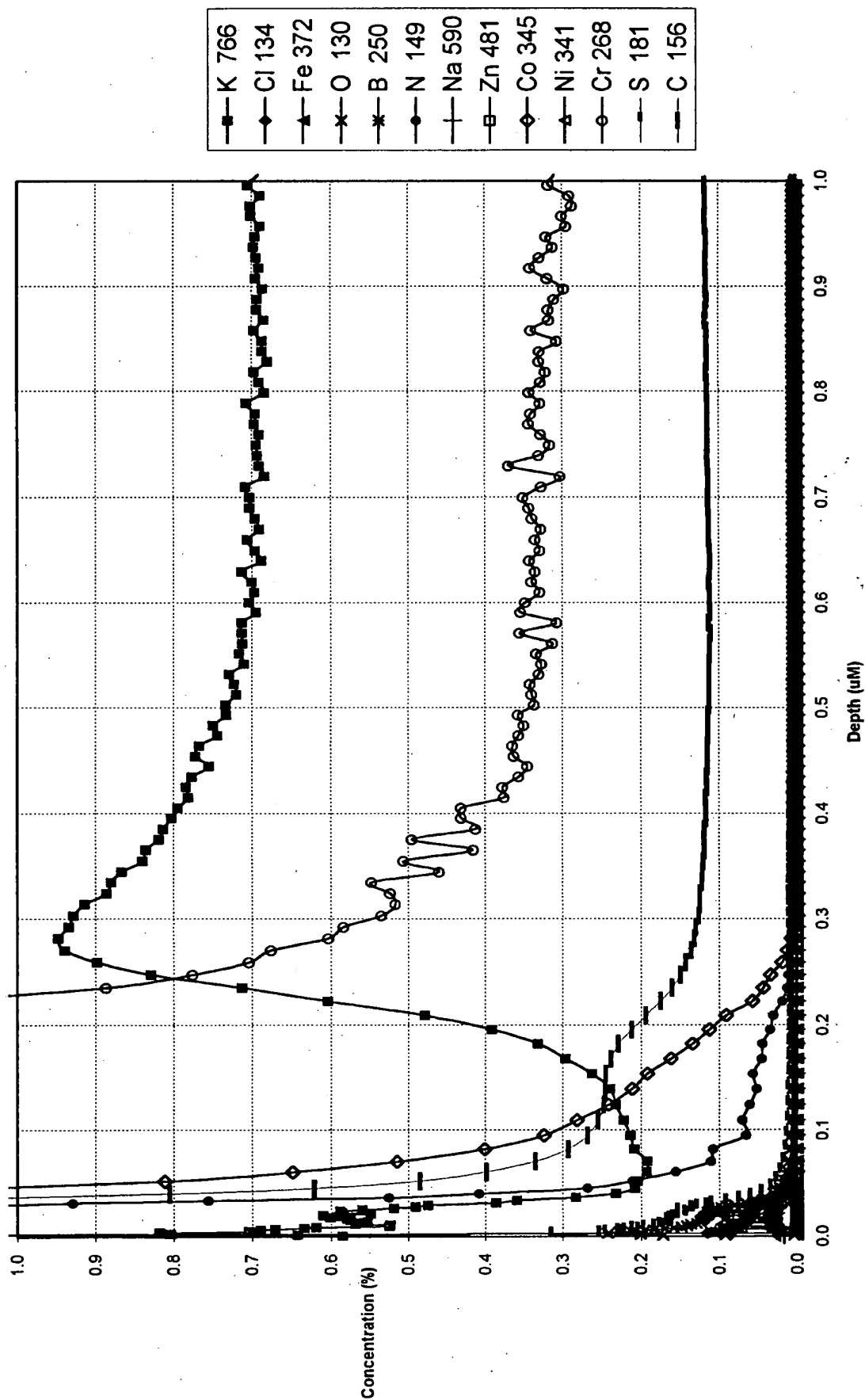


Fig. 27

Sample 7, Measurement Position A

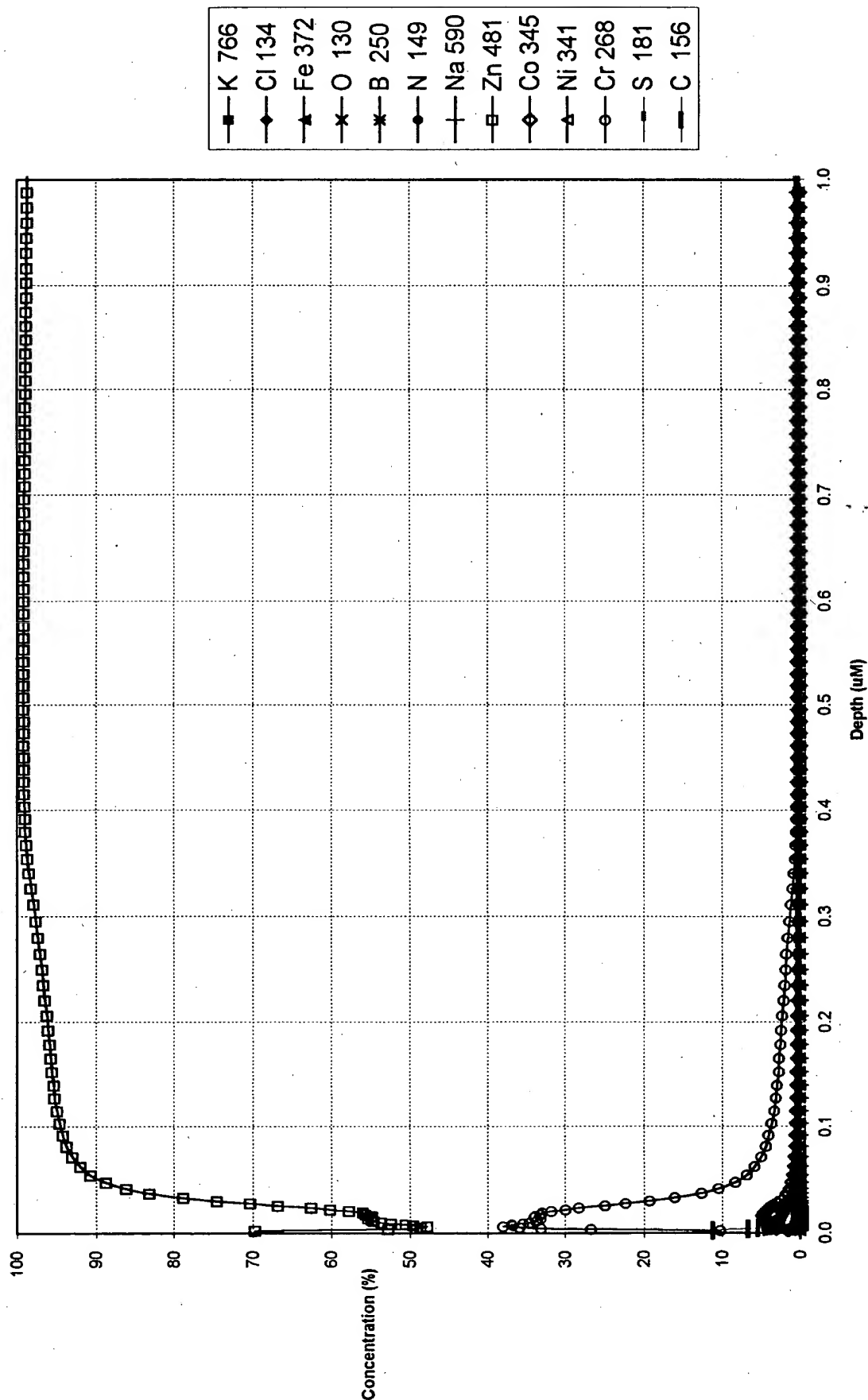


Fig. 28

Sample 7, Measurement Position A

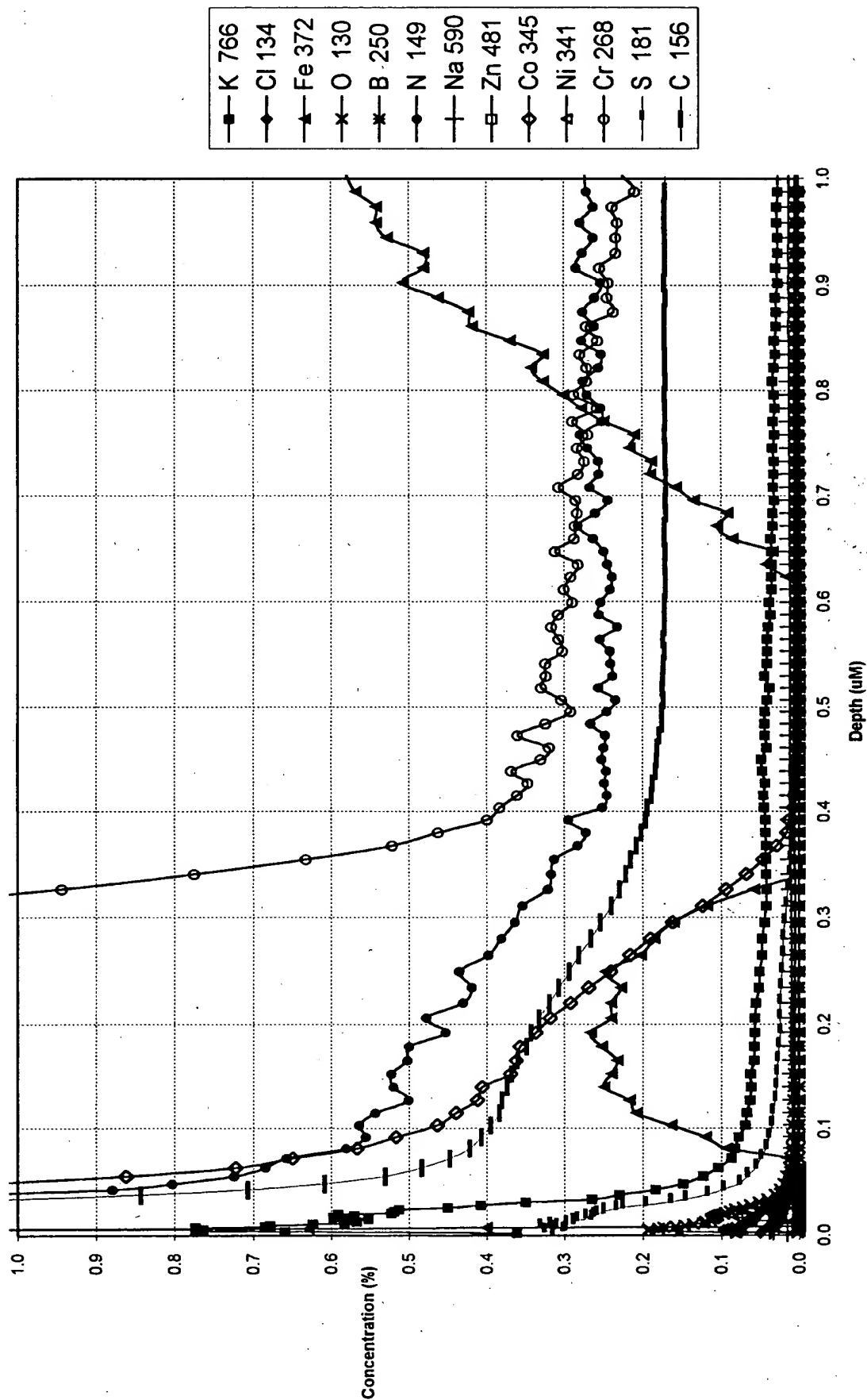


Fig. 29

Sample 7, Measurement Position B

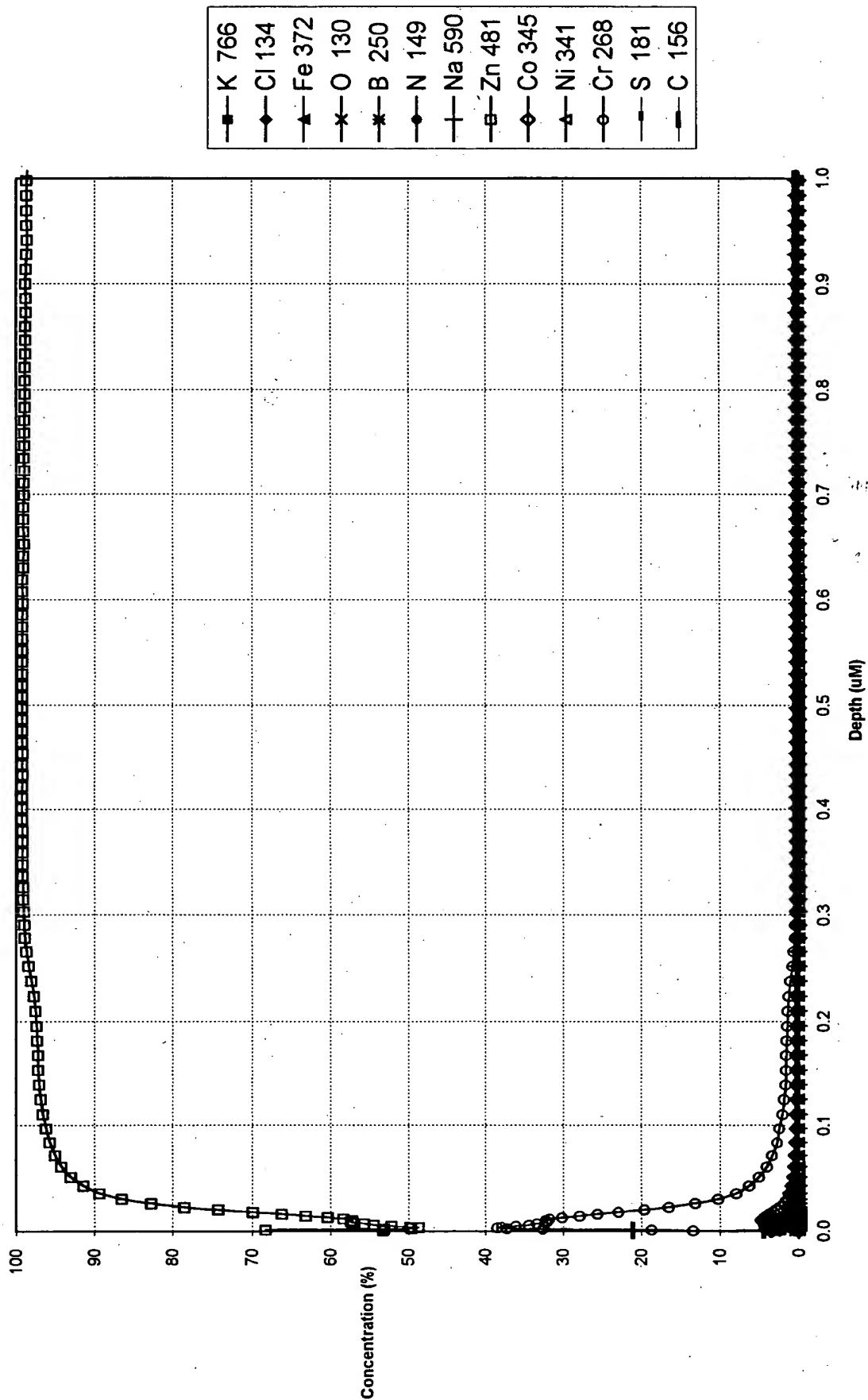


Fig. 30

Sample 7, Measurement Position B

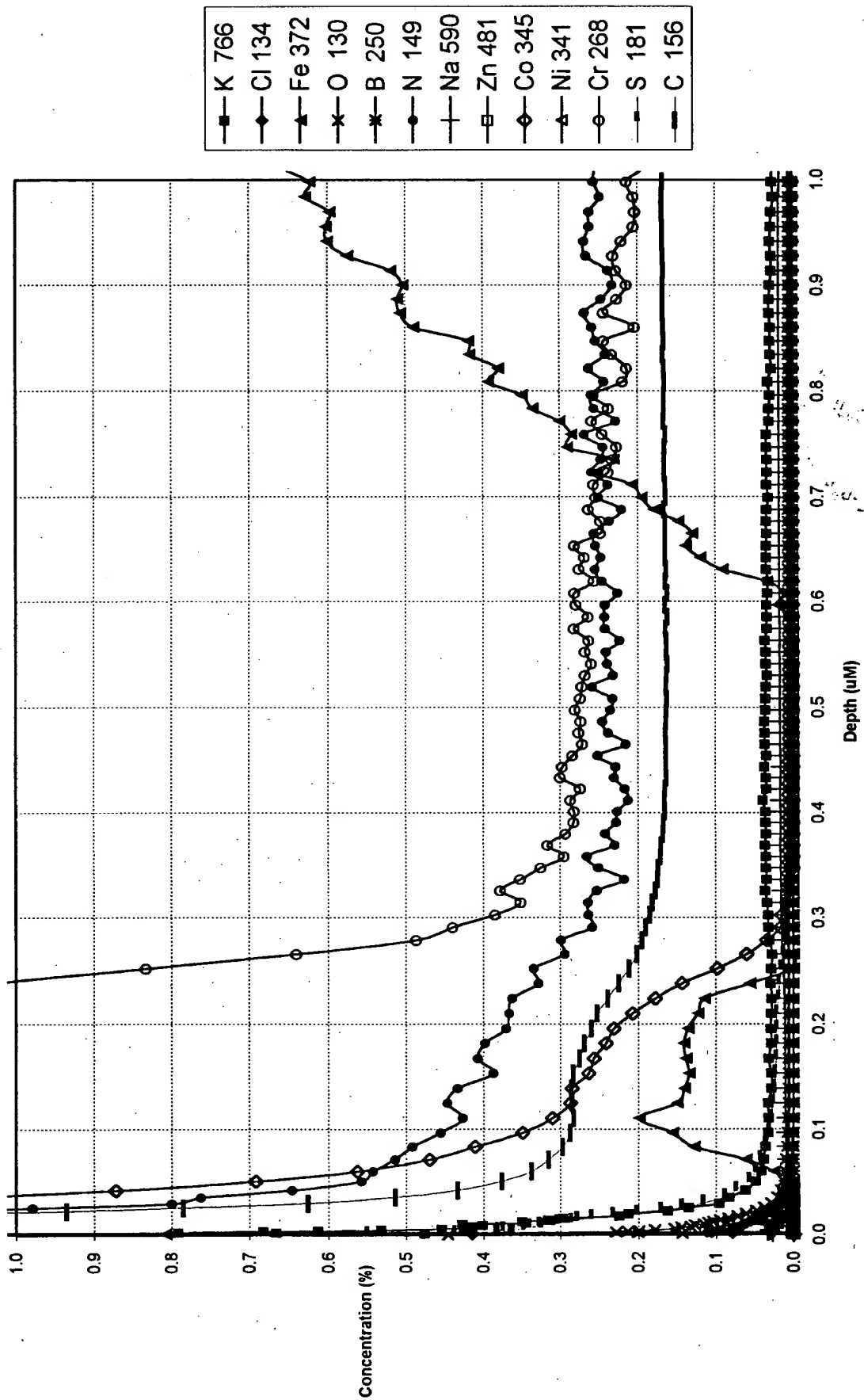


Fig. 31

Sample 8, Measurement Position A

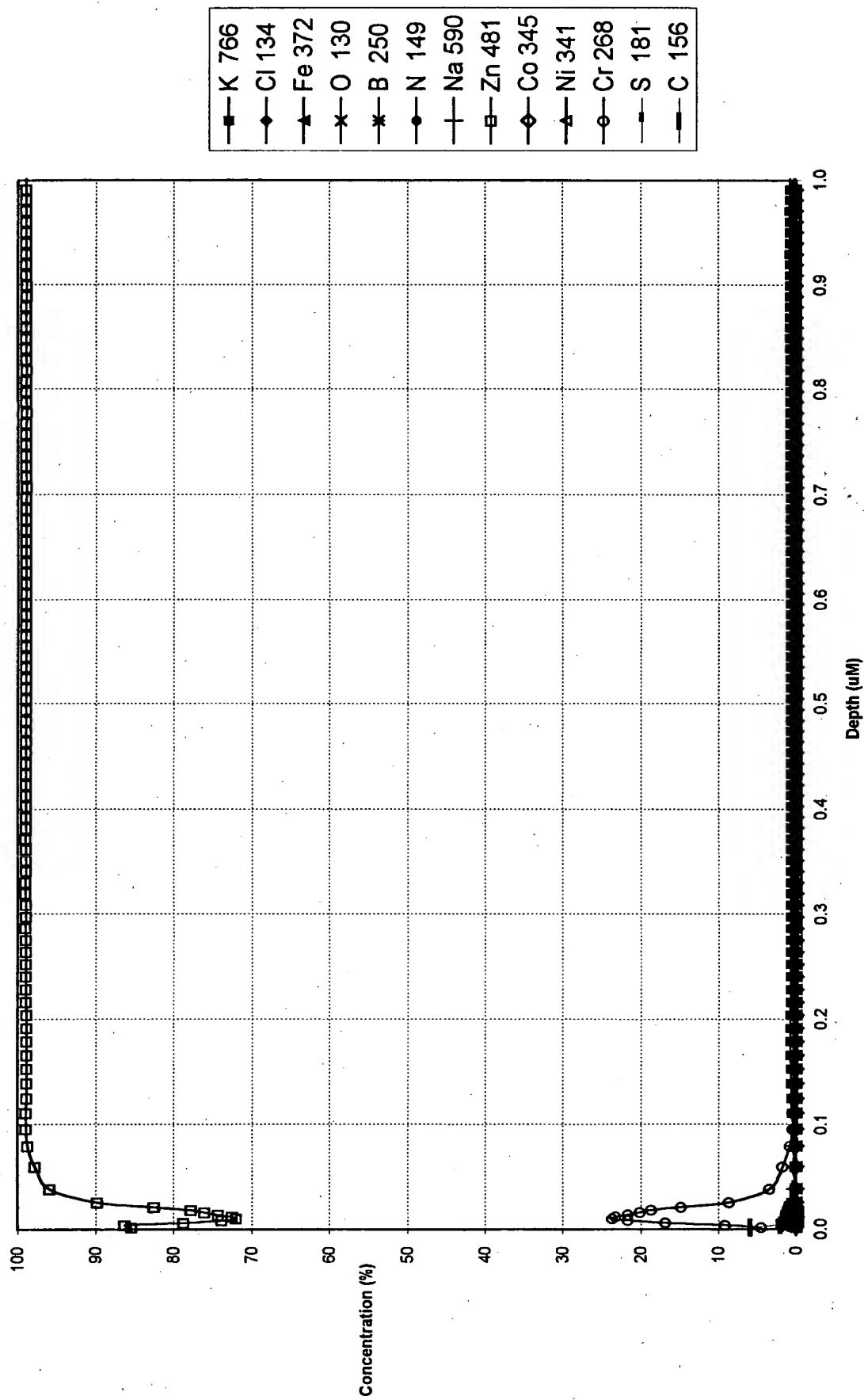


Fig. 32

Sample 8, Measurement Position A

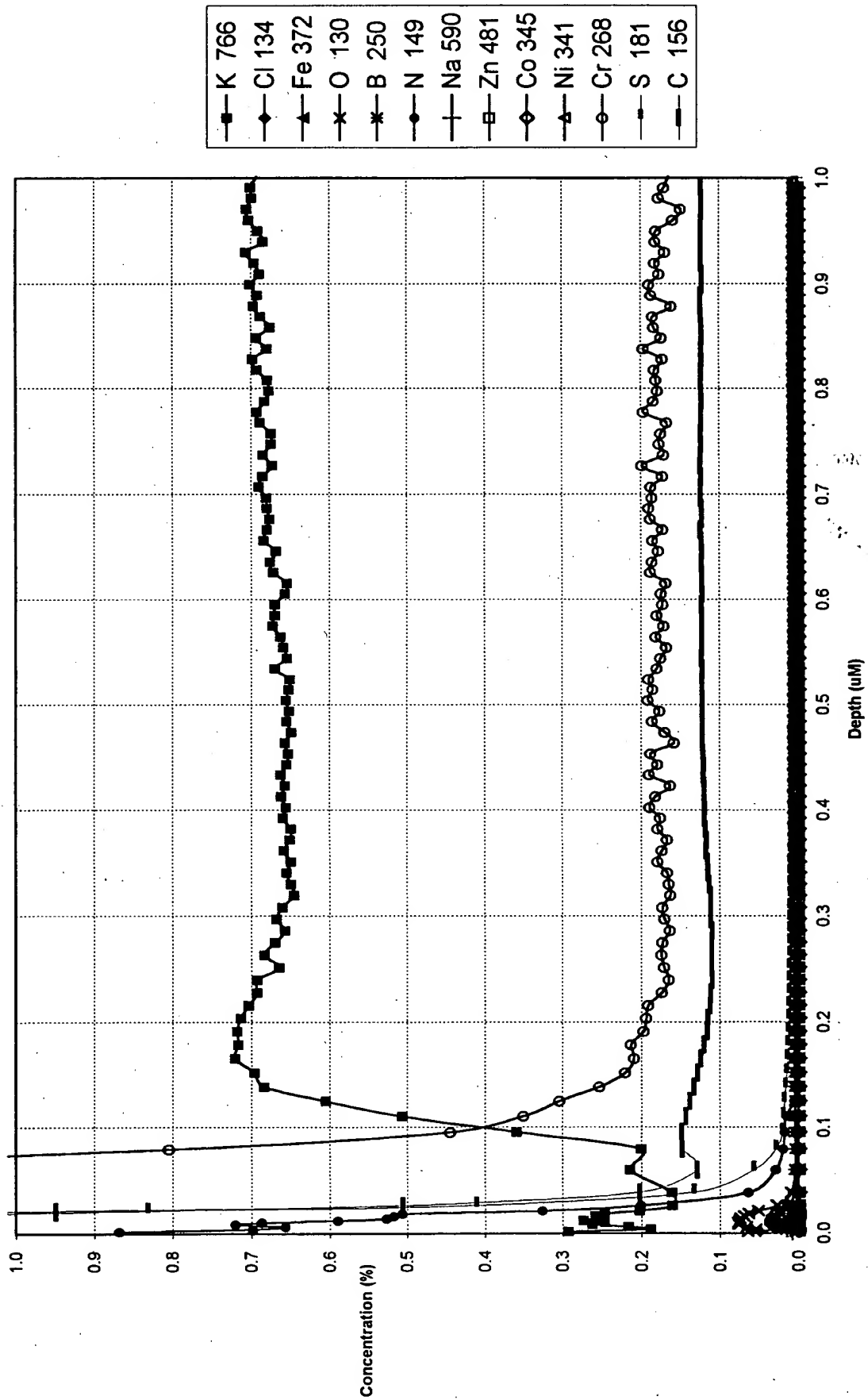


Fig. 33

Sample 9, Measurement Position A

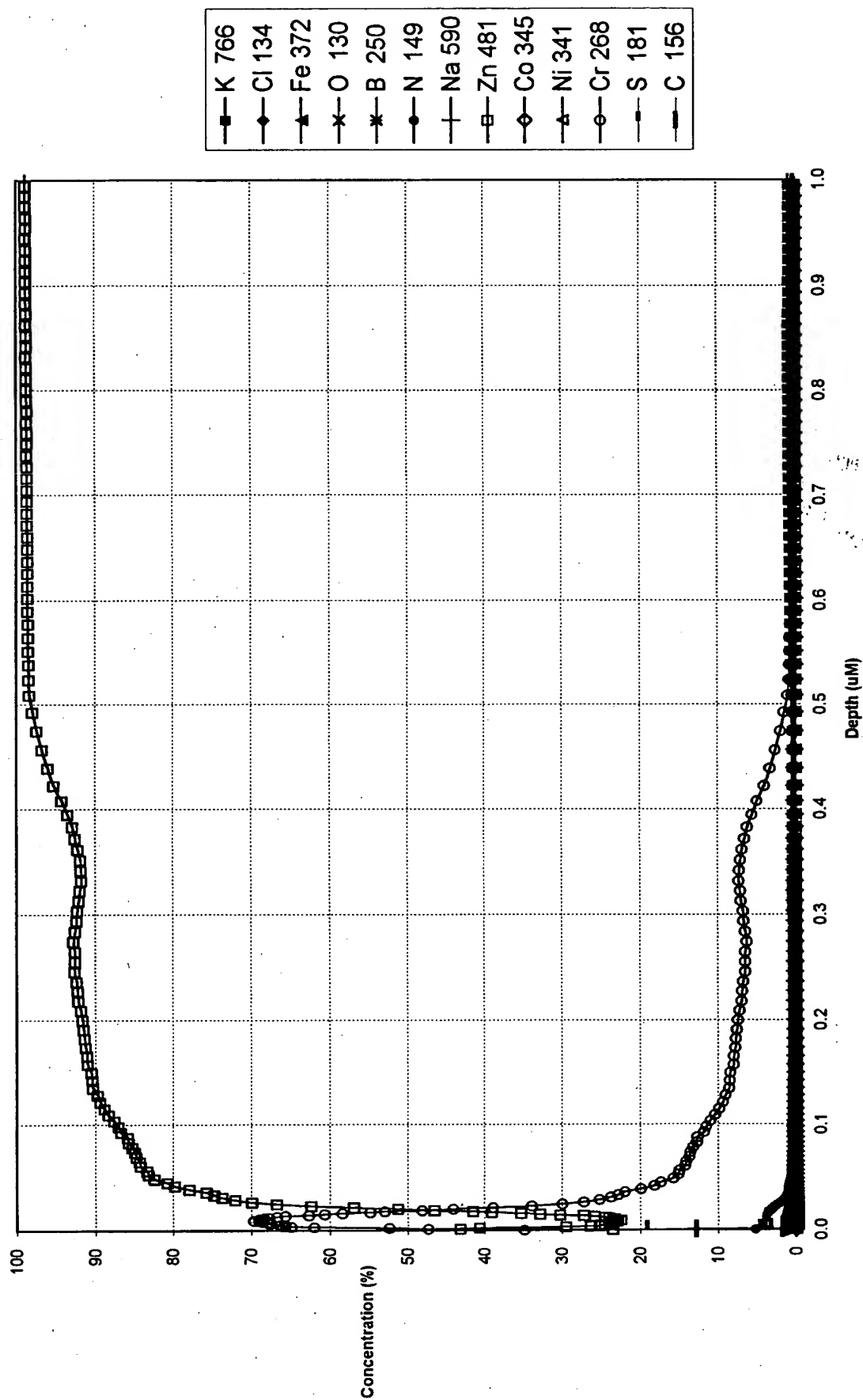


Fig. 34

Sample 9, Measurement Position A

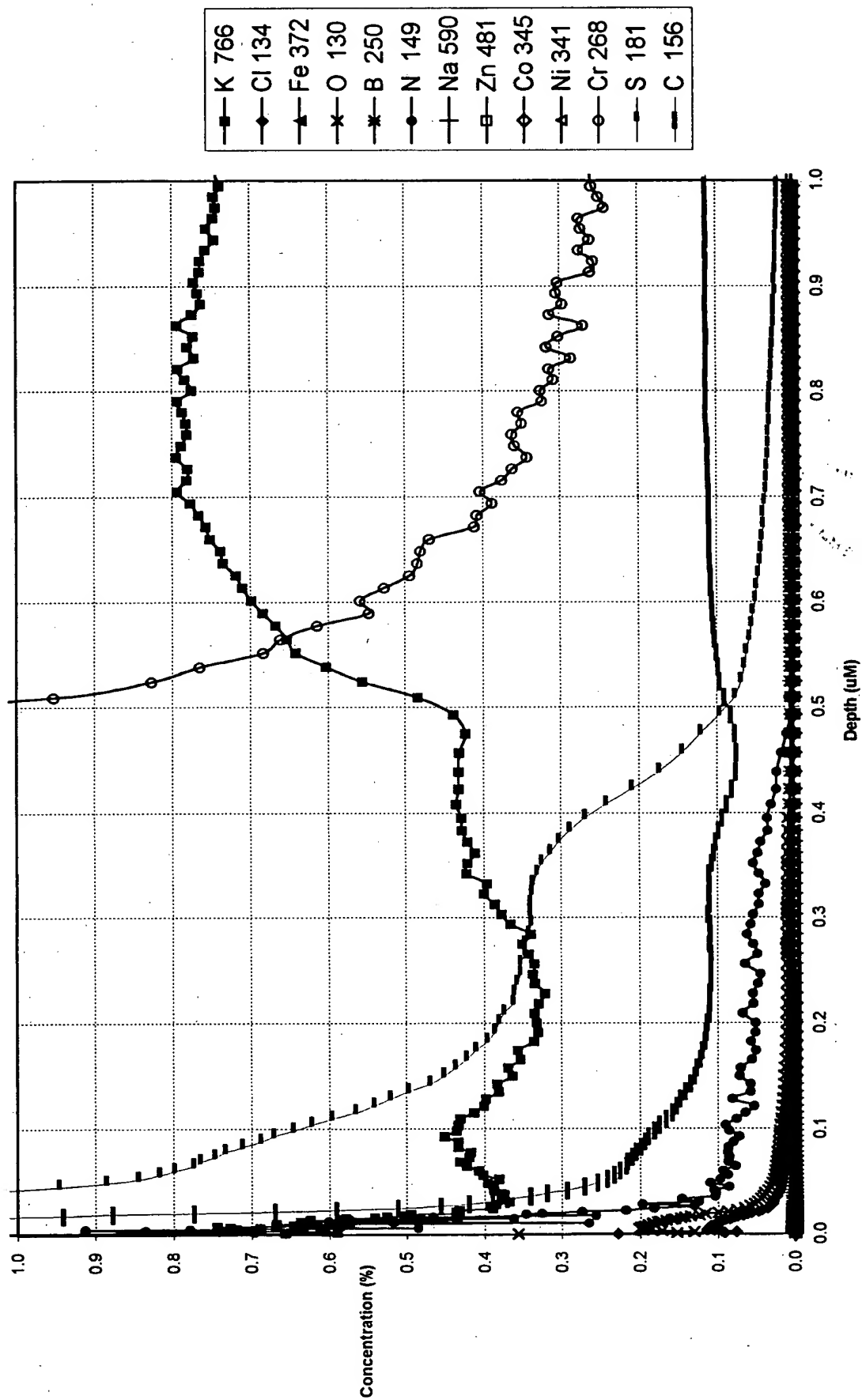


Fig. 35

Sample 9, Measurement Position B

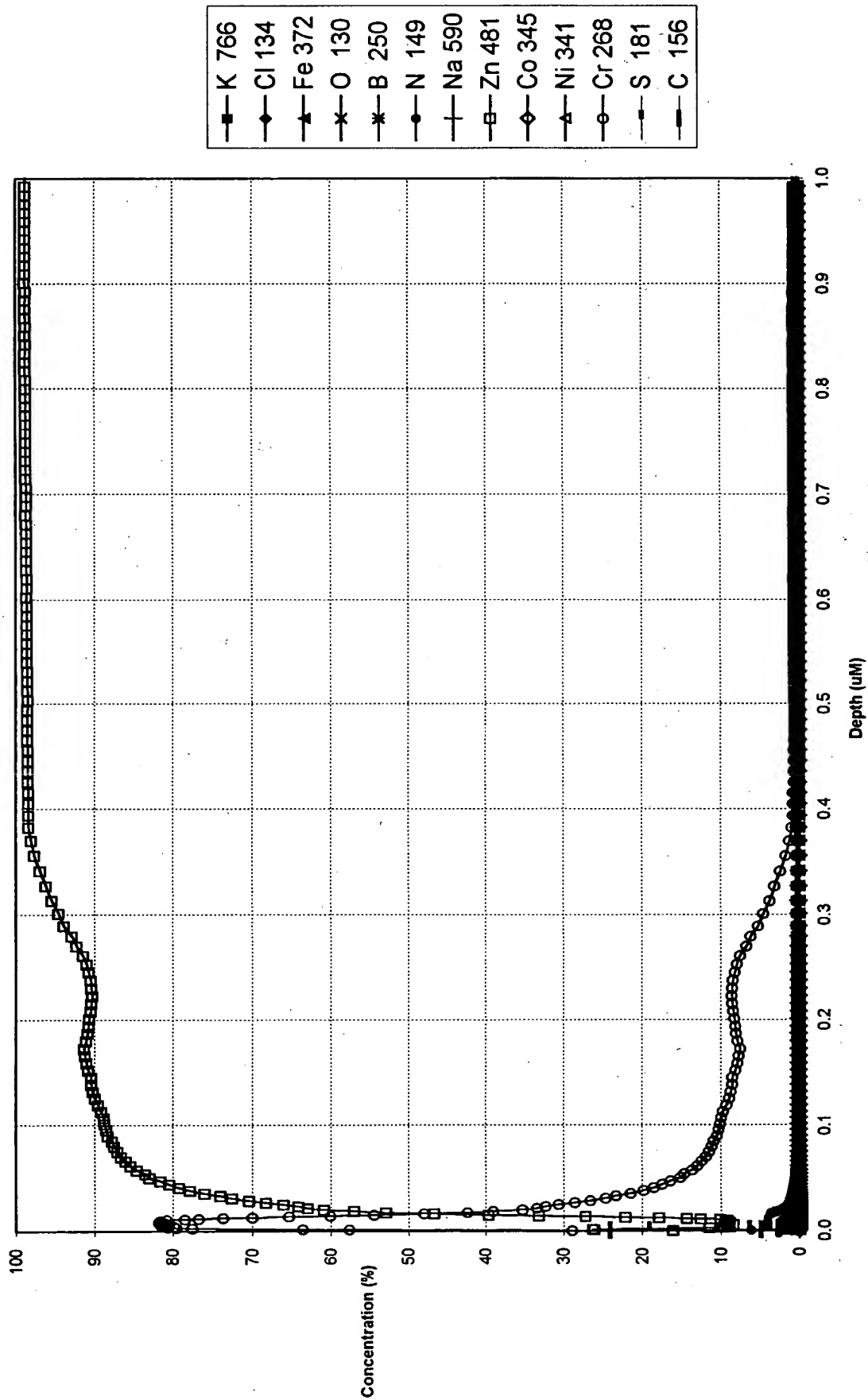


Fig. 36

Sample 9, Measurement Position B

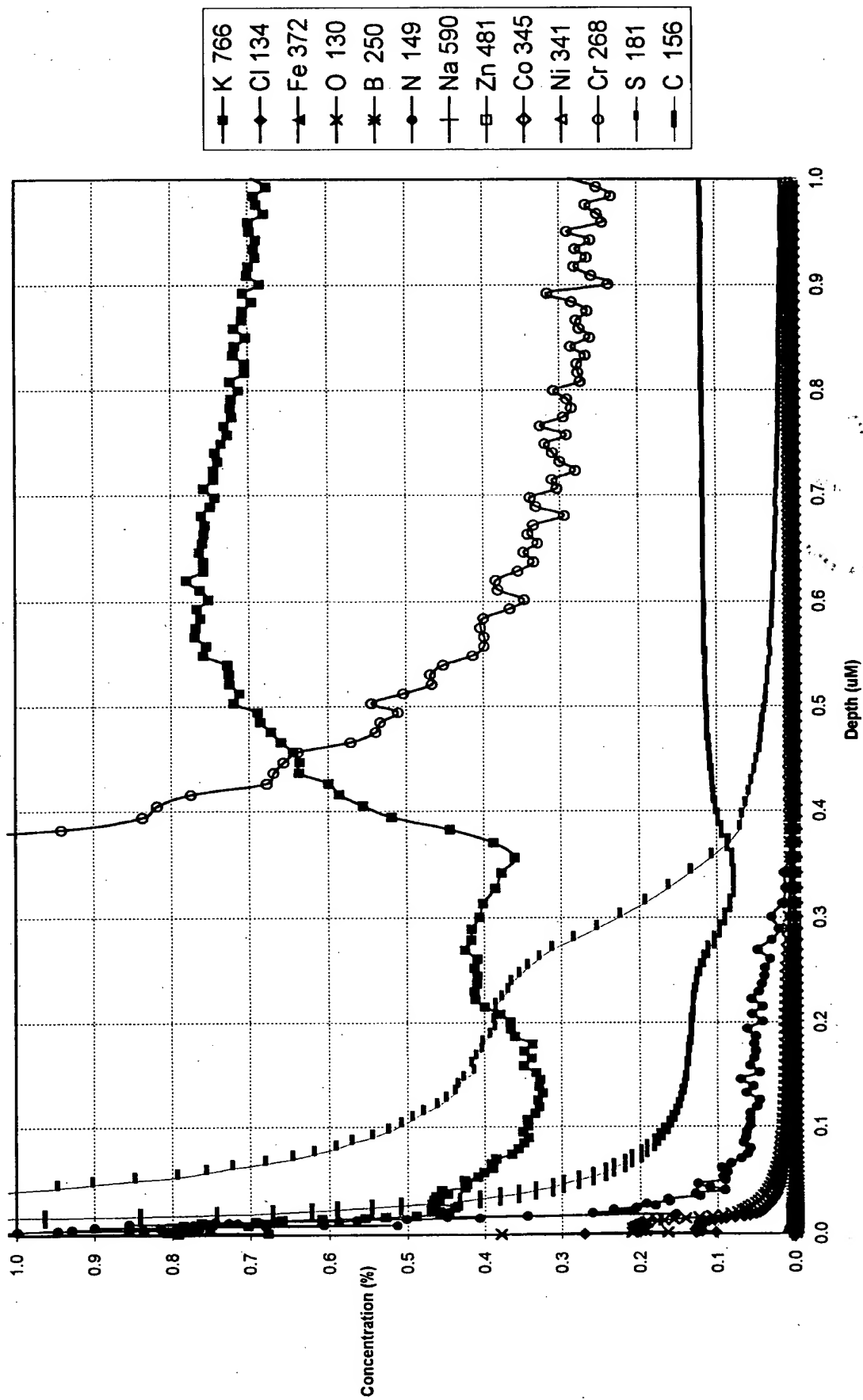
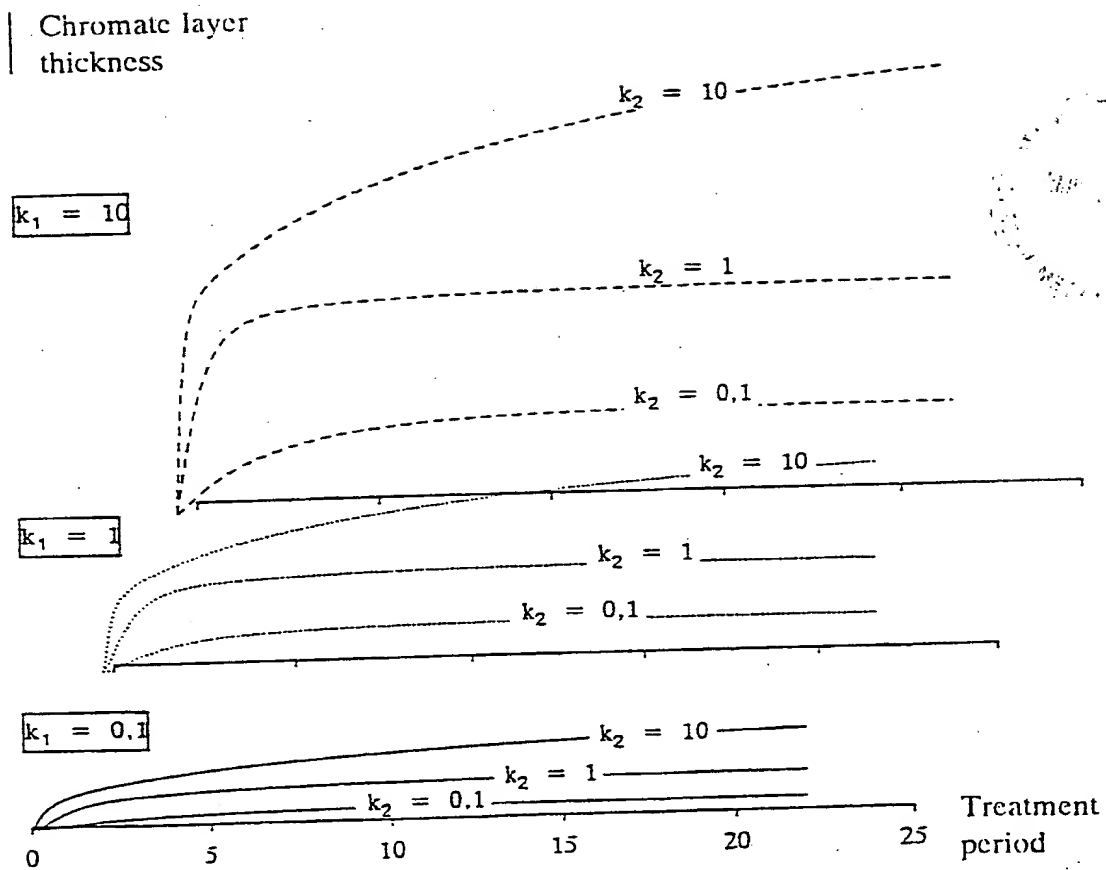


FIG. 37

	Methods			SEM nm	Glow-discharge spectrometer			Sample No.
	Ellipsometry nm	nm (Cr > 1%)	with Cr (%)		chromium index	nm (Cr > Zn)	nm (Cr > 30%)	
1. Prior Art								
Yellow chromation Cr(III) + Cr(VI)	-	300	440	11	48	17	25	9
Blue chromation Cr(III)	98	60	60	8	5	0	0	8
2. Invention (Chromitization)								
60 °C Cr(III)	432	300	344	7	23	2	15	1,2,3,4,5
100 °C Cr(III)	595	-	358	10	38	22	28	6
60 °C on Zn/Fe Cr(III)	-	-	282	6	16	0	16	7
100 °C, two-fold concentration Cr(III)	953	-	-	-	-	-	-	-

Fig. 38



Computer simulation of the kinetic model of
chromate coating of zinc for various rate constants